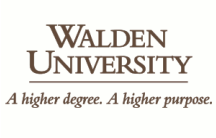



2019

# Crisis Communication Systems Among K-12 School Principals

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This is to certify that the doctoral dissertation by

Tomicka Nicole Williams

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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2019

Abstract

Crisis Communication Systems Among K–12 School Principals

by

Tomicka Nicole Williams

MA, Nova Southeastern University, 2000

BS, Florida A & M University, 1996

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

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February 2019

## Abstract

Crisis communication systems (CCS) in educational settings have been challenged by mass casualty events including shootings, natural disasters, and health outbreaks in the United States. The U.S. federal government and the U.S. Department of Education have created safety and security instructions to manage these complex and diverse security issues, yet they do not address the role of school leaders within a CCS. Using complex adaptive systems as the theoretical construct, the purpose of this qualitative case study was to examine CCSs utilized by school leaders within a single public school district in the United States. The research questions are focused on the influence of components in a CCS, CCS influence on safety and security, and the school leader's role. Data were collected through interviews with 20 school principals and assistant principals of the school district. Interview data were inductively coded and subjected to thematic analysis. Findings indicate that approximately 40% of interviewees believe that communication behavior was the most critical component in a CCS. Methods of communication are varied and include a combination of technologies and behaviors. In addition, the majority of participants reported that internal decision making used by human agents in a CCS influences safety and security in an educational environment. The positive social change implications stemming from this study include recommendations to the school district to enhance communication systems with both human and nonhuman methods, which may contribute to creating safer educational settings for students, faculty, and communities.

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# Dedication

This study is dedicated to God and the angels that he provided to help me process this information, get through challenging times, and complete the dissertation process. Therefore, I would also like to dedicate this study to school districts; policymakers, families that have lost love ones, and school leaders. The study examined school principals and assistant principals understanding of CCS in the K-12 educational setting. In recent years, mass shootings to natural disasters have influenced safety and security in the educational setting. As a result, the lives of students and staff were lost. So, I dedicate this study to school administrators, teachers, staff, students, parents and anyone who have been impacted by safety and security challenges in the educational setting.

# Acknowledgments

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Table of Contents

List of Tables

List of Figures

# Chapter 1: Introduction to the Study

Crisis communication systems (CCS) are critical in assuring school security and safety. Currently, schools are challenged with crises ranging from mass shootings to natural disasters. Recent figures reported that 65% of K–12 schools in the United States reported a crisis that involved violent actions and deaths (Musu-Gillette, Zhang, Wang, Zhang, & Oudekerk, 2018, p. v). This percentage of school-based crises makes it crucial that appropriate CCS be in place. These crises have become more complex and require school leaders to understand their role in a CCS (Liou, 2014). For this reason, an investigation and deeper understanding of the roles that leadership plays are needed in assuring proper utilization and management of CCS systems. Having CCS knowledge is critical to a school's safety plan, and additional research is needed to enhance crisis management and communication in the educational setting (Cowan & Rossen, 2013).

On March 30, 2011, President Obama signed Presidential Policy Directive (PPD) on National Preparedness, which is a directive to instruct the federal government to take action to strengthen our nation's security and resilience against a variety of hazards, including terrorism, pandemics, and catastrophic natural disasters. To help manage crises affecting the educational environment, the Department of Education developed guidelines to manage school safety issues by urging the use of Presidential Policy Directive 8 (PPD8). It is important to recognize that PPD8 provides school personnel with information and tools to manage safety issues in the educational environment (Federal Emergency Management Agency [FEMA], 2013). Though the policy provides CCS information to school principals regarding their role in organizing, adapting, and working

with different internal and external components, traditional strategies outlined by the Department of Education in PPD8 are inadequate to address the school principal's role in a CCS. School systems are confronted with a wide range of potential crises. Therefore, it is necessary for school principals and other leadership staff to understand that developing relationships with individuals and agencies will maintain a level of organization and promote calm in the midst of chaos. Therefore, fostering these relationships is essential in a CCS because they help school leadership understand correct protocols directed toward self-organizing, adapting, and keeping the organization calm in the midst of chaos (Hull, 2011; Liou, 2014; Veil & Husted, 2012).

In response to the massive shooting at Sandy Hook Elementary, school districts suggested that CCS are necessary to aid school principals in managing threats (Cowan & Rossen, 2013). A CCS includes different agents, both human and nonhuman, that work jointly and independently to communicate and ensure the safety of the environment (Veil & Husted, 2012). The human agents are members in the school system who communicate with individuals who work with agencies outside the school system (Flaherty, 2012; Veil & Husted, 2012). Nonhuman agents are tools, behavior, resources, and electronic devices used to communicate information between internal and external agents (Flaherty, 2012; Veil, & Husted, 2012).

Although CCS's agents are critical in protecting students and staff, the development of PPD8 was designed to provide school districts with guidelines on communicating and leading the organization in managing a crisis. Despite the creation of this policy, there continues to be a rise in crises that affect a school principal's ability to

respond to and manage a crisis effectively. Crisis response and management are critical in educational settings because threats in schools have escalated from fights among students to mass shootings and natural disasters (Liou, 2014). The role of school leaders regarding safety and security has been altered to include crisis management and response (Liou, 2014).

Crisis management and response by school principals occur when they take action to manage an unexpected incident that may cause harm to their staffs and students (Mutch, 2015). The action is a combination of wise decision making and the application of security protocols that includes communication to ensure the safety of members. Although crisis response and management is not a school principal's traditional role, mass shootings, natural disasters, and other dangerous acts have caused their role to shift. Therefore, conducting a qualitative study on CCS components, CCS influence on safety and security, and the school principal's role in the system will provide school districts and policymakers with data that enhance crisis management and response in the educational setting. Furthermore, limited research exists in the area of CCS and the perceived role of the school leaders in this system (Cowan & Rossen, 2013; Government Accountability Office [GAO], 2016; Liou, 2014).

In Chapter 1 of this study, a brief background on challenges with CCS and the school principal's practices in the educational setting was discussed. The researcher sought to discuss how school safety has become increasingly complex and diverse for school leaders to manage. Next, I provide a clear and concise description of the problem, the purpose of the study, research questions, and the philosophical theory used to inform

the research. These sections are followed by a discussion on the nature of research and definitions of key assumptions, scope and delimitations, and limitations. The chapter concludes with the significance of the study and a summary of the main points

## Background of the Study

As crises in educational settings intensify, CCS and the school leaders' role are essential in the practice of crisis management and school safety. These crises include mass shootings, natural disasters, and health outbreaks for which school districts have limited, if any, time to prepare (Cowan & Rossen, 2013; Liou, 2014). An examination of school security following the mass shooting at Sandy Hook Elementary School suggested that an effective CCS must be reliable and trusted to manage a crisis (Cox & Hamlen, 2014). Trust is open and reliable communication between agents that work jointly and independently, to respond and resolve a crisis promptly (Veil & Husted, 2012). Open and reliable communication is information that is transparent, simple, and honest (Zhuldz, Onaichan, Surugiu, & Mina, 2013). This type of communication is needed so that the information exchanged between agents in the CCS will provide stability during the disorder. Also, open communication allows for flexibility when managing an unexpected challenge in the midst of the chaotic issue (Kapucu & Khosa, 2013).

The management and application of protocols in a CCS are vital because of the agents' critical roles and their knowledge of the system (Veil & Husted, 2012). Specifically, those in school leadership positions such as school principals have an essential task of making decisions and executing processes in this system (Mutch, 2015; Veil & Husted, 2012). It is their responsibility to employ organization, adapt, remain

calm, and work internally and externally with other agents to respond to and manage a crisis (Hull, 2011; Liou, 2014; Oredein, 2010). Further research and understanding of CCS and the role of school leadership are critically needed (Cowan & Rossen, 2013; Liou, 2014).

Although schools have come far with lockdown and evacuation procedures, there continues to be a problem with school districts possessing knowledge of a CCS in the K-12 setting (Cowan & Rossen, 2013; GAO, 2016; Liou, 2014). An example of a school in Atlanta, Georgia, that demonstrated a weakness in a CCS is when a 20-year-old male with mental illness entered a school with a rifle to kill students and staff (Brumback & Lucas, 2013). The school principals were trained to function internally to communicate and report suspicious behavior to prevent a dangerous act of violence (Wolf & Rosen, 2015). Likewise, a CCS requires agents to communicate and report suspicious behavior and people to prevent an imminent threat (Veil & Husted, 2012). In this crisis, a male with mental illness was able to enter a school building and disrupt learning with a rifle and 500 rounds of ammunition without anyone suspecting there was a problem (Brumback & Lucas, 2013). Because the gunman was able to enter the school unnoticed, shoot several rounds, and hold a clerk hostage, lack of an active CCS was assumed.

In 2014, 10 schools in Georgia were forced to close their doors because of an influenza outbreak that spread to students and staff (Madhani & Cheung, 2014). This problem indicated that communication between internal stakeholders (school officials) and external stakeholders (Centers for Disease Control [CDC]) were deficient. The CDC explained that the flu was rampant in 2014, and the public should take precautions

against the spread of the virus (Madhani & Cheung, 2014). In an effective CCS, internal and external agents exchange communication to prevent impending vulnerabilities and threats to the structure and members (Vanderford, Nastoff, Telfer, & Bonzo, 2007; Veil & Husted, 2012).

During this health crisis in 2014, no evidence existed of communication exchanges between the school system and the CDC to prevent students and staff from contracting influenza. As a result, an estimated 1,300 students and 78 teachers contracted the virus, thereby significantly interrupting the learning schedule (Madhani & Cheung, 2014). In a CCS, internal agents develop and foster strong relationships with external agents, so vulnerabilities of danger are understood (Vanderford et al., 2007; Veil & Husted, 2012). These relationships assist the affected organization with awareness, knowledge, and additional protection from vulnerability or threat (FEMA, 2013; Liou, 2014; Vanderford et al., 2007). The aftermath of the influenza epidemic exposed the following security issues: (a) school leadership's ability to foster and develop strong relationships with CCS agents, (b) lack of understanding of the agents' functions, and (c) leadership's role in how to work with agents in the system to adapt and respond to a crisis in the educational system.

In 2014, an unexpected snowstorm in Atlanta, Georgia, resulted in chaos, causing students and staff to be stranded in schools and on school buses overnight (Bluestein & Leslie, 2014). The response to the impending storm was late. The city was not prepared to respond to the effects that the storm had on the local school system. In a CCS, agents

interact through communication that allows the affected organization to organize, adapt, and respond to a crisis (Cowan & Rossen, 2013; Liou, 2014; Veil & Husted, 2012).

Due to the poor response of the school district, it was evident that the different agents in the CCS were not communicating jointly; rather they were acting independently to manage the crisis because of the uncoordinated results (Bluestein & Leslie, 2014). Consequently, the response demonstrated chaos without organization and adaptability to form new procedures while managing a crisis. A substantial number of students depended on the public bus and Metro-Atlanta Transit System. Discord between internal and external stakeholders heightened problems leading to the failed system (Bluestein & Leslie, 2014).

A CCS requires internal and external agents to work jointly to manage the crisis in both a timely and effective manner (Veil & Husted, 2012). This incident was considered an anomaly; it required clear, concise communication between the school systems, and first responders, meteorologists, and the Georgia Department of Transportation. During the onset of the snowstorm, communications between internal and external agents were limited. The inadequate communication between the agents took place when residents were warned about the impending storm the day prior, yet there was no uniformity between private and public organizations as to how things should be handled (Beasley, 2014; Edwards, 2017). Lack of response and proactive measures alluded to an inactive and nonexistent CCS, because a CCS includes measures and protocols that require ongoing communication between agents proactively preparing the vulnerable organization for a crisis (Veil & Husted, 2012).

The schools' principals were responsible for ensuring communication is constant and maintained between agents aiming for responses that are prompt, and effective, while members in the organization are safe (FEMA, 2013; GAO, 2016). In this crisis, the response was not prompt and was ineffective in keeping students, staff, and administration from remaining on the roads and school buildings overnight in the snow (Bluestein & Leslie, 2014). In a (CCS), school principals are responsible for considering information from external agents (meteorologist, local government, and first responders) to make informed decisions regarding the safety of members in the organization (Vanderford et al., 2007; Veil & Husted, 2012).

The 2014 Atlanta snowstorm caused "2,000 children to be separated from their families and spend the night in snow on school buses, classrooms and police stations" (Burns, 2014, para. 1). As a result, students and staff were stranded in the snow for 20 hours (Burns, 2014). A *crisis* by definition is an example of a complex situation requiring an adaptive communication system to respond adequately. A lack of effective communication between internal and external agents leads to the negative outcomes (Kapucu & Khosa, 2013). At the time of this crisis, the human agents failed to take charge to order schools closed on the day of the storm (Bluestein & Leslie, 2014). Upon seeing that the weather conditions were deteriorating, a CCS would have suggested that adaptive measures be implemented to manage schools and business closings (FEMA, 2013; Hussain & Rawjee, 2014; Veil & Husted, 2012).

February 14, 2018, presented another example of challenges with CCS in the educational setting. In a public high school in Florida, a troubled teen killed 17 students

(Malcolm & Swearer, 2018). Before the incident, the teen discussed his intentions of being a school shooter on a YouTube video, and he was expelled from the Broward County Public School district because of behavioral issues (Rose & Booker, 2018). These reports were known by the Federal Bureau of Investigation, school leaders, the armed school resource officer, and students, yet communication between school officials and authorities was limited (Rose & Booker, 2018). In a 2016 GAO report, 98% of school principals are aware that a CCS exists to manage a crisis in a K-12 educational setting. Specifically, the system requires internal and external agents to report event(s) that may challenge learning in the K-12 setting (Flaherty, 2012; Veil & Husted, 2012).

Consequently, internal and external agents were informed of the teen's behavioral issues before the school shooting and killing of students. Also, it was reported that during the shooting, communication between internal and external agents were challenged as well as it was unclear why the armed school resource officer did not enter the school building during the shooting (Rabin, Teproff, Nehamas, & Ovalle, 2018; Rose & Booker, 2018). Therefore, it is necessary to examine the perceptions of CCS agents among educational leaders to support more effective response and management of the crisis in the K–12 educational settings.

An open CCS requires all decision makers, including principals, to promote real and plausible solutions in the face of impending danger (Veil & Husted, 2012). For this reason, a qualitative study allows an in-depth exploration of the school principals' perceptions of how managing CCS is a part of their role. Furthermore, the qualitative

study provides school principals and their districts with knowledge and data to enhance school safety and security.

## Problem Statement

According to a 2016 GAO report, 98% of school principals are aware that a CCS exists. However, evidence suggests that they continue to demonstrate a weakness in understanding and executing their role and function as agents in the system (GAO, 2016). According to this same report, nearly half (48%) of the country's states reported the existence of an evacuation plan. However, Georgia was one of the 27 states that did not require their school districts to have an evacuation plan (GAO, 2016).

The inclusion of CCS procedures was not discussed as a required component in a K-12 safety plan. This finding solidifies that a problem exists with limited CCS knowledge and application in the K-12 safety plan. Therefore, this indicates a need for further research and exploration of school principal's perceptions of CCS and their role of K–12 leadership in response and crisis management.

In addition to the snowstorm in 2014, the Georgia educational system experienced numerous other crises that challenged the knowledge of CCS functions and role of school leadership during a crisis (Bluestein & Leslie, 2014). It is imperative that school principals and others in leadership positions comprehend CCS agents and their role to make informed decisions, along with managing human and nonhuman threats. The Atlanta 2014 snowstorm demonstrated the need to strengthen CCS in educational settings as students and staff members are exposed to the demand for school leaders to be aware of their role and decision-making process in a CCS.

Therefore, a study that explores perceptions of a CCS and the role of school leadership through the lens of CAS theory concepts can contribute to the current state of knowledge and strengthen crisis response and management in the K-12 educational setting. Further research can contribute to strengthening school safety plans and equip school leaders with tools to respond and manage a crisis. Research on CCS is necessary to (a) enable school principals to organize, (b) adapt to establish new safety procedures during a crisis, and (c) ensure communication is effective between agents, so there is stability in the midst of a chaotic event.

## Purpose of the Study

My this purpose in qualitative case study was to use the complex adaptive system (CAS) theory as the bases for exploring perceptions of CCS agents among educational leaders to support more effective response and management of the crisis in the K–12 educational settings. I used CAS theory as a lens to explore the problem by interviewing school principals and assistant principals at NWE School District to gain an in-depth understanding of CCS and the different agent's roles. A CCS encompasses internal and external agents that work to manage a crisis in both a timely and effective manner (Veil & Husted, 2012).

Data collection involved a combination of categorical response and open-ended interview questions. I used the data to measure the level of knowledge of a CCS among school leaders and approaches in managing a crisis in the educational system. Results identify proactive measures for preventing future threats and vulnerabilities in the educational setting.

## Research Questions

In qualitative research, questions are essential in the study versus the method used to conduct the research (Yin, 2014). The research questions are developed to guide the study and bring focus to the phenomena (Baškarada, 2014). In addition, Maxwell (2013) suggested, "The research questions also bring focus to the relationships to your goals and framework" (p. 75). In this qualitative study, three questions explore the crisis communication components, the influence in safety and security, and the school principal role and perception in the system. I sought to explore the role of school personnel in the CCS designed to respond and manage crises situations in the K–12 educational setting:

Q1: What components of a CCS are used to respond to and manage a crisis in the NWE Public School District, in LMN County?

Q2: How do CCS components influence safety and security in NWE Public School District, in LMN County?

Q3: How does the role of a school principal influence a CCS response and management in the NWE Public School District, in LMN County?

## Theoretical Foundation

In a qualitative study, consideration is given to the philosophical worldviews and thought patterns of the chosen topic. CCS agents responding to and managing crises in the educational setting is the theme of interest. Choosing a theoretical framework encompasses the selection of a theory that will allow an in-depth exploration of the issue and guide the researcher in examining the major elements (Grant & Osanloo, 2014). The chosen theory is CAS theory. The term *complex adaptive system is* a concept to explain

complex environments in science (Holden, 2005). CAS theory is often used to describe the academic field of complex systems not as a single theory, but an interdisciplinary framework that seeks to answer fundamental questions about living, adaptable, and changeable systems. According to Holland (2006), CAS theory is a system that has a large numbers of components (agents), often called agents that interact and adapt or learn. (See Figure 1.)

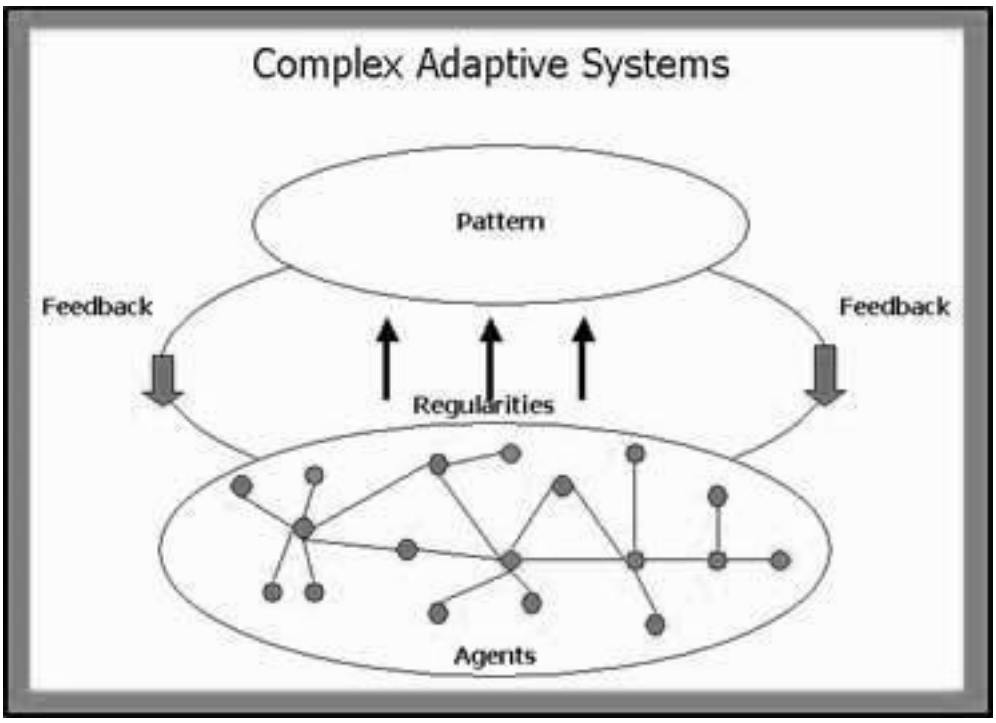


*Figure 4.* CAS adapted from Holland (2006).

The environments include multiple agents and components that interact to resolve an issue, but the outcome is not predictable. As a result of the unforeseeable outcome, agents are forced to interact in a nonlinear method, to provide order and resolution in a complex environment (Dekker, Bergström, Amer-wåhlin, & Cilliers, 2013), unlike a

complicated system that chooses one principle, to establish order and resolution, in an environment that is complex (Dekker et al., 2013). Both systems include multiple agents and components that work together in a complex environment. CAS theory provides a lens that examines crises in an environment that is difficult, to determine the outcome, due to nonlinear relationships.

Theorists such as Holland pioneered the term into a theory at the Santa Fe Institute in their study of complex systems (Pohl, 1999; Xiao, Tao, & Chen, 2012). The core of the theory is to explain the role of living things and their ability to adapt, self-organize, and remain calm in the midst of chaos (Carter & Sood, 2014). An objective of CAS theory is to ensure the organization is stable and can maintain order following a crisis (Ellis & Herbert, 2011). Also, CAS theory is viewed as an evolving organism that includes different agents to whom relationships lead them to organize themselves during an unpredictable time (Palombo, 2013).

The components of a CCS enable school principals to prohibit threats and vulnerabilities as well as respond and manage a crisis, so a sound decision is implemented in the midst of chaos. Not having an adequate CCS in place to respond to a crisis can result in loss of life and damage to property. Most important, it could be devastating to the school district and the principal's ability to protect staff and students. Therefore, CAS theory provides a lens that examines CCS and the school principal's role in the system to respond to a crisis and maintain safety in the educational setting (Aydinoglu, 2013).

The overarching theme when using CAS theory is to explore crisis communications systems in a complex environment, together with their elements (agents, CCS, chaotic event) that ultimately adapt and self-organize in a complex, evolving environment (Smith & Bedau, 2000). Likewise, the components in the environment are challenged and affected by the crisis that may be devastating depending on how the components in the environment respond. CAS theory is characterized by four major mechanisms. They are (a) self-organization, where different units rearrange themselves to make sense of the chaotic environment; (b) adaptability, that allows for new rules to be formed bringing a sense of stability; (c) dynamism, which calls for calm in the midst of the chaotic environment; and (d) coevolution, that refers to units/agents in the system having the ability to evolve and work together in the complex environment (Wang, Han, & Yang, 2015). Therefore, using CAS theory as a lens to examine school leadership roles in a CCS is plausible because it provides insight into CCS agent's functions, the school principal's stance regarding safety and security, along with their ability to adapt and respond in a chaotic environment.

Therefore, conducting a qualitative case study using CAS theory as a lens to interview school principals in LMN County Schools regarding CAS theory components, influence on safety and security, and their role in the system is warranted. It will provide insight into the ability to respond to a crisis and make decisions that positively affect the safety and security of staff and students. For these reasons, CAS theory is the plausible theoretical framework to explore the CCS agents, CCS influence on security, and the

school principal's role in the system. I discuss in further detail the concepts of CCS and their application to the study in Chapter 2.

## Nature of the Study

Three types of methods exist for researching social science (Rudestam & Newton, 2014). They are qualitative, quantitative, and mix methods. A method of study is selected based on the best strategy to address the issue and gain an understanding of the phenomena (McCusker & Gunaydin, 2015). A qualitative method is used to examine issues and processes to determine current and forthcoming consequences through interviewing participants in the field. By comparison, a quantitative method is used to measure something based on numbers through a validated statistical approach (McCusker & Gunaydin, 2015; Morgan, 2016; Yin, 2014). Quantitative method approaches establish a hypothesis that is proven or disapproved based on the statistical results. However, most quantitative methods are not considered inadequate in using a theory to examine a phenomenon (McCusker & Gunaydin, 2015). A mix-method research is a culmination of both qualitative and quantitative research (McCusker & Gunaydin, 2015).

For purposes of this research project, I chose a qualitative approach. Among the several qualitative designs to choose from, a case study, ethnography, grounded theory, phenomenology, and a narrative study was not the chosen methodology (Marshall & Rossman, 2016; Rudestam & Newton, 2014). Instead, a case study was the plausible choice because this design focuses on an in-depth understanding of a phenomenon through a variety of data collection methods from a single unit or multiunit of analysis (Marshall & Rossman, 2016; Rudestam & Newton, 2014; Yin, 2014). In a case study, a

unit is an event or entity, and the collection of data includes but is not limited to interviewing, observation of participants, and reviewing documents (Yin, 2014). My intent in this case study is to conduct an in-depth investigation of the phenomenon in one unit (NWE Public School District). In an ethnography method, the purpose is to study the culture and life of groups, organizations, or communities. A grounded theory method focus is to establish a theory that explains the social phenomena through a series of procedures (Marshall & Rossman, 2016; Rudestam & Newton, 2014).

Phenomenology focuses on a historical description and understanding of the participant who lived and shared the experience (Marshall & Rossman, 2016; Rudestam & Newton, 2014). Last, a narrative research is the story that explains a person's life or event (Rudestam & Newton, 2014). Although each method is unique in completing a qualitative research, a single unit case study is a plausible choice because an in-depth understanding will be obtained by using one unit of analysis from which to collect data. The phenomenon that I investigated was CCS agents and school principal's role in this system. CCS is a variety of different internal and external agents and procedures that labor together and independently, to prevent threats and manage crises (Galemore, 2012, 2015). The presence of such a system requires agents to understand their role and processes to be prepared for crises that challenge communication and safety in the educational environment (Kapucu & Khosa, 2013). In addition, CCS requires agents and communication to be stable, clear, honest, and sensitive to ensure the safety of students and staff (Veil & Husted, 2012).

A single unit analysis allows the focus to provide an in-depth analysis of the phenomenon and not participants (Yin, 2014). A single-unit qualitative case study approach offers an up-close exploration of the issue (phenomenon) by interviewing school principals and assistant principals in the NWE Public School District. I collected the data through interviews and transcribed the data on to a portable external hard drive. Next, I uploaded the data into Survey Monkey to organize and conduct a text analysis. Survey Monkey is considered efficient and reliable in managing, organizing, storing, and analyzing qualitative data (Freeman-Herreid, Prud'homme-Généreux, Schiller, Herreid, & Wright, 2016). Although Survey Monkey is considered an efficient text analysis tool, NVivo is considered an effective software analysis tool to conduct analytical and thematic analysis of large data for a qualitative study (Hadfield, Hutchings, & de Eyto, 2018). Themes were based on the theory's concepts as a lens to address the research questions. I categorized and matched all responses to the open-ended questions, observation notes, and document analysis notes with the appropriate themes in NVivo. The analysis took place at the end of each data collection day, and the process continued until the data started to repeat. Once the data started to repeat, data collection and analysis was sufficient (M. Q. Patton, 2002; Yin, 2014). Investigating this phenomenon using a qualitative case study methodology that focuses on a single unit allows the researcher to conduct an in-depth investigation of CCS agents. A study allowing a deeper understanding of the perceived roles and practices of school leadership will be a potential contribution to the existing body of literature.

## Definitions

*Complex adaptive systems theory* (*CAS*) *theory*: For the purpose of this study it is the understanding of how different mechanisms work together in chaos and maintain stability (Carter & Sood, 2014).

*Communication*: For the purpose of this study it is the exchange of information through human and non-human devices that is verbal dialogue, written information, images, behavior, that is clear, frequent, and timely, to respond and manage a crisis. Also, the exchange of information involves the human and non-human device selecting information to transmit and understand to manage a situation in a social setting (Bradler, Schiller, Aitenbichler, & Liebau, 2009; Farías, 2013).

*Crisis*: For the purpose of this study a crisis is an event that threatens lives and property unexpectedly (S. J. Kim, Kang, Lee, & Kang, 2014; Salman, 2014).

*Crisis communication*: Crisis communication is an individual, team, and or system that collects and disseminates information during a crisis (Coombs & Holladay, 1996; Mazzei & Ravazzani, 2015).

*Crisis Communication systems* (*CCS*): For the purpose of this study CCS are different agents that work jointly and independently to communicate and ensure the safety of the environment. These agents are a combination of people (internally and externally) and communication equipment that provides information to members in the organization and the public to respond to a crisis (Veil & Husted, 2012).

*Presidential Policy Directive 8 (PPD8)*: It is a policy enacted in 2013, to provide emergency management planning to educational institutions in the United States (FEMA, 2013).

*School leaders*: For the purpose of this study they are principals and assistant principals in the educational setting (Fuller, Hollingworth, & An, 2016; Hull, 2011; Liou, 2014).

*Systems*: A system is a collection of interrelating agents that make up a unit (W. Patton & McMahon, 2015).

## Assumptions

Assumptions are beliefs that are expected and believed to be true, but not proven to be true (Bradbury, 2015). The study is subject to the following assumptions: (a) school leadership is concerned with the safety and protection of students and staff, (b) the school district has a CCS in their school safety plan, (c) locating an adequate amount of participants to respond to this study will be difficult, and (d) finally, participants will answer the interview questions honestly. These assumptions are necessary for this case study because the intent is to understand components of the CCS and school leaderships' role to manage a crisis in the educational setting.

Another description of assumptions is the beliefs of subjects before collecting and analyzing data (Hancock & Algozzine, 2011). These assumptions regarding the content, ideas, and people should be taken into account because they existed beforehand (Bradbury, 2015). If they are not discussed in the study, it would be considered unethical (Miller, Birch, & Mauthner, 2012). Therefore, assumptions are included in the study to

demonstrate ethical consideration and transparency to content that can influence the study and provide an understanding of the participant's views (Miller et al., 2012).

## Scope and Delimitations

The scope of the study is the focus on specific aspects of the research study. Specifically, a survey conducted by the Department of the Office of Accountability determined that 98% of school principals are aware that a CCS exists, but they continue to demonstrate a weakness in understanding the role of school leadership and agents in operating the system (GAO, 2016). Therefore, the scope focuses on the gap between CCS expertise and the school principal's knowledge of his or her role in the system to prevent and respond to a crisis in the educational setting. The research will provide additional insight into the school principal's perception, so he or she is equipped to make sound decisions in preparing and responding to a crisis in a K-12 educational setting. Therefore, the populations in the study are K-12 school principals and assistant principals from NWE Public School District (NWE), not higher education administrators.

To address the questions and purpose of the study, the CAS theory is the chosen theoretical framework to complete the study. Although CAS theory is the plausible choice, chaos theory and situational crisis communication theory were investigated. The lens of chaos theory explains behavior and neglects the role of the person managing the threat and the system agents (Liou, 2014). Also, situational crisis communication theory (SCCT) was excluded because the theory failed to address the agents in a CCS and the role of the human managing the system. Instead, SCCT focuses on the situation and types of crises that could arise (Brown, Brown, & Billings, 2015). Therefore, CAS theory is

plausible because it provides a framework that explains agents in a CCS and the human role in the system (Carter & Sood, 2014).

Transferability is the ability for other readers to determine if the research aligns with their context or settings (Bloomberg & Volpe, 2012). So, to address the potential of transferability, the study did not address settings outside of the K- 12 educational setting. Despite the growing concern of CCS in other educational settings and the school leaders' limited knowledge of their role, the focus remains on CCS in the K- 12 setting. For this reason, organizations outside the K-12 educational environments are not within the scope of this study. Nevertheless, it is possible for transferability because CCS expertise is a global issue. So, to refrain from transferability occurring, participants were selected from a large pool of participants from NWE Public School District in LMN County.

## Limitations

The potential limitations of this study are participants' unwillingness to be honest and open when discussing their perception of their school district's CCS with a member of the public. Furthermore, there may be limitations with selecting participants, participants may provide erroneous responses, and misinterpretation of participants' intentions may occur. To manage these limitations, the qualitative case study used a purposeful sampling strategy to ensure quality, rich data were obtained. The purposeful sampling strategy allowed the selection of participants that are critical to addressing the theory in the study (Maxwell, 2013). In this study, it is critical to interview principals and assistant principals. Also, the use of a qualitative case study requires the primary instrument to choose one school system that has many cases. The chosen school and

instruments do not have any personal connections (emotionally or physically); therefore, the concern of biases is obsolete.

The study obtained feedback from school principals and assistant principals; it was anticipated that not all participants might be forthcoming with rich information. Therefore, careful consideration, without biases, was given to the creation and the tone of the questions. Also, the goal was to gain rapport with the chosen school district to solicit feedback from school principals and assistant principals in one district, as well as gain permission from the appropriate official(s) to collect data. Implementing these processes limited any unethical issues and obstacles completing the study.

## Significance of the Study

Crisis Communication System research is significant to safety and security in the K- 12 educational setting because crisis communication application is limited, and additional research is warranted (Cowan & Rossen, 2013; GAO, 2016; Liou, 2014). Also, additional research of CCS will equip school leadership with a comprehensive safety plan that equips them with making sound decisions to prepare, respond, and manage a crisis in the K- 12 educational setting. Additionally, it will enable stakeholders (internally and externally) to efficiently communicate prior, during, and following a crisis in the educational setting. The school safety plans will be strengthened with tools that will enable them (stakeholders) to be proactive in managing and responding to a crisis.

Examples of school's safety plans exist that include specific procedures of lockdown and evacuation procedures, but few include details of CCS. It is evident in an investigation by the U.S. GOA, which reported that schools' districts include lockdown

and evacuation procedures but do not require school districts to include CCS protocols in their safety plans (GAO, 2016). Specifically, out of 52 states, 25 states reported the existence of an evacuation plan and nine states reported that these plans include additional detail (GAO, 2016). Yet, the discussion of CCS was not included.

**Significance to Practice**

These findings are significant in equipping school districts and their leaders with a comprehensive safety plan that protects against vulnerabilities and threats in the K-12 educational setting. The study will fill the gap in literature around including CCS procedures in a comprehensive K-12 school safety plan. Also, CCS research can be used to educate school staff and students in the K- 12 setting on CCS strategies to improve crisis response and management in the K- 12 setting. CCS are different agents that work jointly and independently to communicate and ensure the safety of the environment (Veil & Husted, 2012). These agents are a combination of people (internally and externally) and communication equipment that provides information to members in the organization and the public to respond to a crisis (Veil & Husted, 2012). Therefore, the inclusion of CCS will provide school safety plans with protocols for communicating with internal and external agents before, during, and following a crisis.

**Significance to Theory**

The study will link CCS to CASs theoretical concepts to demonstrate how to bridge theory and practice while illuminating how human and non-human agents can work together to improve a social issue (crises) that is impacting the world. School principals are encouraged to understand CCS to manage these new threats and

vulnerabilities (Barge, 2012). The study will influence social change by providing information on CCS agents and school leaders perceptions of their role in this system. CCS research is limited; yet school principals are encouraged to understand CCS to manage these new threats and vulnerabilities (Barge, 2012). The study will influence social change by providing information on CCS agents and school principal's perceptions of their role in this system. School districts principals and others in leadership positions will understand why a CCS is necessary, in a school safety plan.

**Significance to Social Change**

The Department of Education (DOE) and the Federal Emergency Management Agency (FEMA) will gain additional data to develop procedures that equip schools with preparing, responding, and managing potential crises from mass shootings to natural disasters. It will advance the practice and policy of security and safety in the K-12 educational setting. Most importantly, the study will provide a starting point for best practices needed to include school principals and assistant principals in the planning processes of safety and security. Potentially it will change the scope of school safety plans by requiring that all school districts include a detailed outline of CCS protocols to prepare, respond, and manage a new set of security concerns in the K- 12 educational setting.

## Summary and Transition

Planning for a school crisis has expanded from simple quarterly drills to school leaders' understanding CCS (CCS) and their role in the system. Chapter 1 contains a brief analysis of the importance of a CCS in a K- 12 school safety plan, so school principals

are prepared to respond and manage a crisis. Additionally, the chapter discussed how not having an understanding of the system's agents and an efficient system in place causes a lack of decision-making and judgment at the time of a crisis. Furthermore, Chapter 1 includes the following sections to conduct single-case study analysis of CCS through the lens of complex adaptive systems theoretical concepts: introduction, background, problem statement, purpose, research questions, theoretical framework, nature and significance of the study, as well as the data collections process that took place.

Thus far, most literature suggested that K-12 school systems lack a CCS (GAO, 2016). School leaders are aware of the CCS but lack the knowledge to make sound and effective decisions to protect students and staff. Therefore, the ability to conduct a qualitative case study that uses complex adaptive systems theory concepts as a lens to examine the agents in CCS and school principal's role will support the research and address the research questions.

# Chapter 2: Literature Review

In 1 year, the Georgia educational system experienced three crises that challenged the school principal's knowledge of CCS functions and their role during a crisis. Scholars such as Cowan and Rossen (2013), Estep (2013), and Liou (2014) proposed that school leaders inclusive of principals are a critical component of a successful school safety plan and that additional CCS research is required, to equip school leaders with tools to respond to and manage a crisis in a K- 12 educational setting. School safety and security in the K-12 educational setting are lacking effective CCS procedures and application when responding to and managing a crisis. A survey conducted by the Department of the Office of Accountability determined that 98% of school principals are aware that a CCS exists but continue to demonstrate a weakness in understanding and executing their role in operating the system (GAO, 2016). Furthermore, exactly half, or 25 of 50 states, and the District of Columbia, reported having an evacuation plan (GAO, 2016). School safety and security becomes problematic when there are no CCS policies and procedures established. Therefore, a qualitative case study that explores school principals and assistant principal's knowledge of CCS and their role in the system is warranted to address the problem in school safety and security in the K-12 educational setting. For this reason, my purpose in this qualitative case study was to use complex adaptive system theory as a lens to explore school principals' perceptions of CCS agents and the school principal's role in the system to effectively respond to and manage a crisis in the educational setting.

The discussion in this chapter provides a comprehensive analysis of the following areas of concentration: (a) theoretical framework, (b) crisis communication systems, (c) crisis response; (d) crisis management; (e) school safety and security: planning, education, training, and the school principal's role; and (f) the problem. In examining each area, the literature provides insight by scholars who have conducted studies and analysis. In the end, I summarize the findings from the literature to provide insight into crisis management among school leaders in the educational setting.

## Literature Search Strategy

In this chapter, I examine systems theory and the relationship it has with CCS in the educational setting. As a result, it required an examination of peer-reviewed journals, books, articles, and government articles in the past 5 years taken from the electronic libraries of Walden University, Purdue University, and the University of Phoenix. The keywords that I used to conduct the search included *complex adaptive systems theory, crisis communication systems, crisis communication systems and school safety, crisis management, emergency preparedness and school safety, emergency systems and school safety, emergency systems and communication, school safety and security, school safety, systems theory, systems theory and crisis, system theory and communication, system theory and leadership, system theory and organization, violence and school safety,* and *violence and school security*. I located the vast collection of research materials through EBSCO, Emerald Management, Homeland Security Digital Library, Military and Government Collection, ProQuest Central, International Security and Counter Terrorism Reference Center, and Sage Collection. I also obtained articles from the reference list of

peer-reviewed articles obtained earlier in the study. Recently, I used published articles to examine school safety crises in the last 5 years. Finally, I used Google Scholar to locate articles not available through databases, and landmark cases regarding school safety and crisis management.

## The Development of CAS Theory

### Systems Theory

Systems theory is a relevant method and pioneer of CAS theory. The theory originated during World War II as scholars united together and developed general systems theory (GST) that is credited to Ludwig von Bertalanffy (1901-1972; Corning, 2014). The theory was used to provide a foundation that examines small to large systems that include two or more components. The components are the following: "physical (machines or humans), social (human beings, groups, or cultures), political (political parties or government entities), or other similar entities" (Palombo, 2013, p. 7). These components (agents) in the system work, independently and dependently, for a common goal (von Bertalanffy, 1972).

As a result of agents working independently, it may cause a problem in the system if the agent working independently does not have a relationship with agents in the system (Palombo, 2013; von Bertalanffy, 1972). This problem is significant in my study because a CCS requires agents in the system to have a relationship to effectively respond to and manage a crisis (Veil & Husted, 2012). GST was initially developed to examine biological systems and their agents, but additional research led German sociologist, Luhmann (1927-1998), to broaden the lens of GST to the field of social science

(Drechsler & Trepper, 2014). Through research, Luhmann described a social system as "interactions, organizations, and societies" where the main element is communication (Drechsler & Trepper, 2014). Communication is essential in this qualitative case study because it is the main component in a CCS (Veil & Husted, 2012). Communication is used by agents to transfer information, internally and externally, when responding and managing a crisis (Mazzei & Ravazzani, 2015). Luhmann described communication as the following process: the agents in the system (a) select information to be communicated, (b) disseminate the selected information, and (c) the disseminated information is received and understood through application among agents in the system (Drechsler & Trepper, 2014; Schirmer & Michailakis, 2015). In addition, the information that is transmitted in this process must be done simultaneously to be effective. Likewise, information in a CCS requires agent's communication to be ongoing while the following steps are applied: (a) determine the appropriate information to provide in the time of a crisis, (b) provide information to the appropriate internal and external agents, and (c) act on the information received to respond to and manage a crisis (Veil & Husted, 2012; Zhuldz et al., 2013).

Though the communication processes and steps are critical in Luhmann's GST and CCS, GST and CCS proposed each step should be open and flexible to challenges in the process (Drechsler & Trepper, 2014; Veil & Husted, 2012; Zhuldz et al., 2013). In addition to the processes being open and flexible, Luhmann's GST proposed that agents in the system should be aware of the environment and the world surrounding the system. In other words, the surrounding environment can influence and affect the function in the

system. This is essential because crises that occur externally, outside of the school, can have influence the CCS. The unexpected snowstorm affected communication and the school system's function in responding to and managing the system during the crisis (Bluestein & Leslie, 2014). Although system theory examines the process and role of communication in a system, systems agents and their role in a system, and the systems elements needed to be effective, it fails to discuss the complexity agent. Therefore, in the 1980s CAS theory was introduced as a framework (Malaina, 2015).

**CAS Theory—Characteristics (Components)**

The theory of CAS was derived from the term *complex systems* in the 1980s, by pioneers Holland, Gell-Mann, Dooley, and other philosophers, at the Santa Fe Institute (Holland & Miller, 1991; Pohl, 1999). The philosophers of CAS theory were interested in examining how a system's agents adapt and self-organize, in an environment that is influenced by chaos (Dodder & Dare, 2000; Parsons, 2007). The essence of systems theory remains, with additional research into how chaos and how it influences systems and the involved agents to achieve order in an environment that is complex (Coetzee, Van Niekerk, & Raju, 2016; Hammer, Edwards, & Tapinos, 2012; Palombo, 2013). One of the pioneers, Holland's work (of the 1980s), described CAS theory as multiple diverse agents, working proactively and reactively, together, to respond to events in the systems' environment (Pohl, 1999). Most important, Holland insisted that these agents must be cohesive to achieve resilience in the midst of chaos (Brownlee, 2007). The characterization and philosophy of Holland's work (of the 1980s) are similar to the characterization of CCS in the educational environment. In an educational environment,

the agents in a CAS theory are diverse and numerous. They include but are not limited to school personnel, first responders, local government, media, and other entities that are essential to ensuring the safety of students and staff prior, during, and following a crisis (FEMA, 2013). Also, FEMA suggested that the educational environment establishes a cohesive relationship with internal and external agents to ensure all participants are prepared to respond to and manage a crisis.

Next, Gell-Mann (1990s) characterized CAS theory as a cycle that seeks to establish a routine in both behavior and environment through information, so the system's agents can adapt and organize (Eidelson, 1997). Although the order is achievable through Gell-Mann's cycle, it is noted that the information received may be imperfect. Therefore, Holland (the 1980s) suggested that principles must be pre-established to examine the information exchanged between agents in the system, to avoid the transmittal of imperfect information (Eidelson, 1997). Likewise, in a CAS theory, systems are required to establish policies and procedures that organize and manage information transmitted between external and external agents (FEMA, 2013; Veil & Husted, 2012).

Another pioneer who was essential in the development of CAS theory is Dooley (1980s). Dooley introduced another aspect of CAS theory that involves the agent's ability to adapt in a complex environment through their plan of being dependent in their thinking (Eidelson, 1997). The agent can be creative, independently deciding the best method to respond to and manage the environment based on the information transmitted. Again, the application of Holland's pre-established rules and policies will guide the agent in

working independently in responding to and managing in a chaotic environment. It allows the agent to be self-governing in their decision-making while also providing an environment for the agent to be creative to achieve resilience and organization in a chaotic environment. In such, these philosophies described by CAS theory are similar to philosophies necessary in a CCS. For instance, internal and external agents in a CCS are required to apply processes pre-established, to respond to and manage a crisis (FEMA, 2013; Veil & Husted, 2012). The processes provide agents with a guide in making decisions to respond to and manage a crisis.

In taking action to apply these principles of Holland, Gell-Mann, Dooley, and other scholars of CAS theory, it is concluded that CAS theory is characterized by the following attributes: (a) agents are numerous and diverse in being both proactive and reactive to their environment, (b) agents are able to make decisions independently without consulting with agents outside of their unit based on principles pre-established, and (c) the agents' goal in the system is to achieve a common goal of organization and calmness, in a chaotic environment, through their cohesive and pre-established relationships with other agents in the system (Morrell, 2005; Smith & Bedau, 2000). Each scholar provides the study with a foundation to explore the attributes and components of CCS to ensure school principals are equipped to respond to and manage a crisis in the K-12 educational setting. In addition to these principals, CAS theory describes specific behavior that agents in a system should display when responding to their surrounding environment that is influenced by chaos.

**CAS Theory—Behavior (Function)**

Along with CAS theory characteristics, the behaviors of CAS theory will guide the examination of a school principal's role in a CCS. The four main behaviors that describe CAS theory agents' behavior (role) when they respond to and manage complexities in their environment are: (a) self-organization, (b) adaptability, (c) dynamism/stability, and (d) co-evolve/innovative (Morrell, 2005; Smith & Bedau, 2000). Self-organization includes the agents in the system interacting. This interaction can manifest into the form of communication, behavior, patterns, or structure that produces organization in a complex environment (Aydinoglu, 2013). For instance, in a CCS, agents are required to interact with agents in the system through communication manifested by verbal, non-verbal, or electronic transmission to establish organization during a crisis (Veil & Husted, 2012). In other words, the agents find a creative structure that occurs when the system is open. For example, Flaherty (2012) and Liou (2015) suggested communication systems that manage and transmit communication during a crisis in the K-12 setting should be diverse because it will provide innovative strategies in responding to a crisis. The literature stated that the diverse forms of communication are newspapers, media, technology, phone class, and other communication methods that will notify appropriate parties of the threat (Flaherty, 2012).

Through self-organization, adaptability emerges because the agents can establish new procedures from the interaction manifested in and among multiple agents in the system. Similarly, in a CCS, agents may be challenged with executing the established procedures, so they are expected to establish new processes, to respond to and manage a

crisis (Mutch, 2015; Veil & Husted, 2012). Next, stability is the system's ability to remain stable in the midst of chaos and co-evolution is the behavior of the system agents producing innovative methods to establish resilience (Aydinoglu, 2013; Ellis & Herbert, 2011; Wang et al., 2015). The ability to remain stable in the CCS requires established practices such as guidelines and procedures for school personnel to follow (Veil & Husted, 2012). Also, CCS co-evolution behavior is illustrated through the school personnel practicing, training, and understanding their role in the system (FEMA, 2013; Veil & Husted, 2012).

Hammer et al. (2012) explained that complexity in the environment might manifest into positive elements or negative elements in the communicative network. As a result, the negative element will produce adapting mechanism and the positive element procedures self-organizing mechanisms. Likewise, in a CCS, agents are influenced by negative and positive elements that require them to connect through communication, to adapt and organize, to respond to and manage a crisis (Veil & Husted, 2012). For the purpose of this study, the characteristics and behavior of CAS theory align with the elements and functions in a CCS. Cowan and Rossen's (2013) and Liou's (2014) proposed CCS application in the K-12 setting require improvement to enhance crisis response and management among school leaders. These practices and suggestions are critical as the K-12 educational community experience new realities in safety and routinely ranging from natural disasters to mass shootings. Therefore, CAS theory is a plausible choice for exploring the elements and functions of CCS and a school principal's role in the system as they respond to and manage a crisis.

Furthermore, CAS theory is warranted in addressing the research question: (a) How does a CCS agent influence safety and security in NWE Public School System? The characteristic aspect of CAS theory enables the study to explore the qualities that a CCS require in a K-12 school system. The second research question is: (b) How does a school principal's leadership role function in a CCS to enhance crisis response and management in NWE Public School System? To explore the role of a school principal in a CCS, using the CAS theory behavior as a lens is necessary to address this question and receive feedback from school principals in the NWE School System. With respect to understanding the agent's role in a CCS system, the theory is plausible in addressing the purpose statement outlined in Chapter 1. The CAS theory determines through the research questions how components and functions of a CCS influence the K-12 educational environments when responding to and managing a crisis. Also, the research addressed some major concerns regarding school safety and security that was in question during an examination by the Department of Accountability Office (GAO, 2016).

Thus far, literature is limited in providing information regarding complex adaptive system systems theory as a lens to examine CCS in the K-12 educational setting. Specifically, literature is limited in the overall discussion of CCS. This study provides a lens that uses complex adaptive system theory as a guide in identifying the characteristics and functions of a CCS as well as the school principal's role in a CCS. It is necessary as a framework to explore school principal's functions due to limited research in addressing the school principal's role in a CCS for the K-12 setting. Finally, the study provides knowledge to the limited body of knowledge, while, according to Liou (2015), providing

data to enhance safety and security in the wake of crisis management becoming a necessity in the K-12 educational setting.

## Crisis Communication System

### Define and Components

CCS and the school district's ability to use this system in responding to and managing a crisis in the K-12 educational setting are critical. According to Coombs (2005), a crisis is an unexpected incident that threatens the lives of people and the social environment. Crises in the educational environment challenge communication systems and the personnel who apply these components during a crisis (Cowan & Rossen, 2013; Liou, 2014). In a case study, Liou (2014) suggested the educational community require improvement with internal and external crisis communication protocols. Protocols include communication between crisis teams within the educational community and key stakeholders outside the educational community. The internal crisis team and stakeholders are a diverse group of people whose goal is to ensure students and staffs are safe. Likewise, CAS theory describes a complex system as one that requires ongoing communication between and among a diverse group of agents (Kim & Maroulis, 2015). Agents base their decisions on pre-established principles that guide them during a crisis. Similarly, in a CCS, the internal and external stakeholders follow pre-established guidelines regarding when to and how to respond to a crisis in an educational setting (Veil & Husted, 2012).

In a study of emergency preparedness systems and protocols at West Springfield Public School System, Flaherty (2012) suggested that key stakeholders are school leaders

and first responders that actively participate in crisis communication. School leaders are principals that coordinate and communicate with agents internally and externally, to respond to and manage a crisis (FEMA, 2013). Yet, protocols on behalf of school personnel in a CCS continue to be a challenge (Liou, 2015). Kapucu and Khosa (2013) suggested that school leaders should have knowledge and training on their role in a CCS, to enhance an effective outcome in crisis response and management in the educational setting. The qualitative case study provides insight into CCS components through the lens of CAS theory characteristics of a complex system that uses communication as a means to respond to and manage a crisis.

**CCS—Mechanisms**

In a survey, Kapucu and Khosa's (2013) findings suggested that CCS should include a diverse group of stakeholders that use different modes of technology to communicate internally and externally to manage a crisis. Flaherty (2012) suggested the term communication includes "the internet, local TV, newspapers, flyers, all-call or connected messages, postings in local community centers, churches, or apartment buildings, and the communication should be in multiple languages" (p. 195). CAS theory describes crisis communication as a diverse group of agents that work jointly, as well as independently, to resolve an issue in a complex environment (Palombo, 2013).

As the crisis is resolved, the agents in the system are adapting and organizing in the midst of a chaotic event (Morrell, 2005; Smith & Bedau, 2000). Since various communication methods are necessary, Galemore (2012) suggested that crisis communication protocols should be flexible and open because a crisis will challenge

CCS. Likewise, CAS theory suggested that complex systems employ openness to allow agents to be creative in making decisions, independently of other agents, to restore stability in a chaotic environment (Eidelson, 1997).

Therefore, using CAS theory as a lens to inquire on CCS components in the educational setting is plausible. The theory allows the study to investigate upfront and obtain feedback from school principals in the K-12 educational setting. The lens of CAS theory provided guidance in exploring the school principal's role in a CCS as well as the application of their role to respond to and manage a crisis. CAS theory used the following philosophies to gain insight into the agent's (school principal) functions (role) in a system that is influenced by a crisis: (a) self-organization, (b) adaptability, (c) dynamism/stability, and (d) co-evolve (Morrell, 2005; Smith & Bedau, 2000). Each CAS theory element is a guide to inquiring and obtaining feedback from school principals at NWE Public School District.

Through discovery, literature regarding the characteristics and functions of a CCS is limited, as well as, information regarding the school principal's role and application of a CCS in the K-12 setting. Instead, scholars outline school security procedures that school districts include in their CCS (GAO, 2016). Instead, these procedures focus on evacuation processes employed by school leaders. For this reason, scholars suggested that more research is needed to enhance CCS expertise and application in the education community (Cowan & Rossen, 2013; Liou, 2014). The purpose of this study is to fill the gap in research that contributes understanding current perceptions and practices, as well as enhances crisis response and management in the K-12 educational setting. Therefore, it

is warranted to conduct a qualitative case study because it will provide an upfront and in-depth exploration of CCS characteristics and the school principal's roles in the systems through the lens of CAS theory. For this reason, it is anticipated that this and similar studies will enhance school safety and security. Equipping school principals and leadership at NWE Public School System with data is essential for improving response and management of the crisis in the educational environment with effectiveness.

**School Leaders**

Liou (2014) conducted a qualitative case study that gathered information from a school crisis management team consisting of a school principal, assistant principal, school counselor, school psychologist, and teachers. Through the methods of interviewing, surveys, and focus groups, Liou (2014) determined schools should consider ongoing drills, so school members have detailed understanding internal and external of crisis communication procedures. Oredein (2010) provided a questionnaire to school principals and concluded participatory decision-making determines effective crisis communication in the educational setting. This decision-making process requires school leaders to be involved in the crisis communication process through delegating duties and responsibilities in a democratic manner (Oredein, 2010).

CCS requires leaders to be flexible and collaborative in their actions during a crisis (Liou, 2014). To accomplish this flexibility and collaborative action, Liou (2014) suggested well-developed plans be in place for leaders to follow. Likewise, systems theory and CAS theory require complex environments have open and flexible communication to achieve the overall goal of the organization (Coetzee et al., 2016;

Galemore, 2012). Therefore, conducting a qualitative case study using a pool of participants is plausible in closing the gap between CCS and school leaders' role in an Atlanta Metropolitan School District.

**CCS and School Leadership Approach**

According to Hussain and Rawjee (2014), the school leaders approach in a crisis communication system involves communication in three different phases. These phases include managing and participating in CCS prior, during, and following a crisis. In addition to school leaders participating in these three phases, FEMA (2013) and Kapucu and Khosa (2013) implied school leaders' support and participation with CCS are necessary because they create and identify individuals who participate on crisis teams in the organization. Also, school leaders work jointly with external organizations that assist school leaders in managing a crisis (FEMA, 2013). Therefore, their approach with CCS is critical in awareness and preparation of a crisis.

In the first phase, FEMA (2013) and Liou (2014) implied school leaders strategically identify leaders in the organization to manage the communication systems. According to Hussain and Rawjee (2014), the first phase is considered the planning stage. During the planning phase, Liou (2014) suggested school leaders conduct drills and review strategies in place, to ensure they are adequate to respond to a crisis. Although they review plans in place, Kapucu and Khosa (2013) suggested the educational environment does not view that one plan will fit any crisis. Instead, Kapucu and Khosa proposed that communication during the planning phase is critical because school leaders must collaborate with internal and external stakeholders to create plans for all types of

threats. These threats range from natural disasters to human-made threats (Hull, 2012). Therefore, CCS and the approach of school leaders during the planning phase are management and organization with internal and external stakeholders.

The next phase of a CCS is when internal and external stakeholders work jointly and independently to resolve a crisis. During this phase, Kapucu and Khosa (2013) and Liou (2014) implied school leaders approach with crisis communication should include clear, open, and flexible processes that allow the crisis to be resolved promptly with limited to no harm to members or property. These approaches are necessary because communication that is not clear, open, and flexible will cause challenges with CCS (Galemore, 2012). The channels of communication that flowed between internal and external stakeholders during the tornado were challenged because communication was not flexible (Galemore, 2012). Instead, the educational environments depend on the form of communication that causes challenges during and following the crisis (Galemore, 2012). According to Liou (2014), flexibility is critical, but open and clear communication is also important. Therefore, a school leader's approach during a crisis requires him or her to ensure the CCS is open, clear, and flexible.

Lastly, following a crisis Kapucu and Khosa (2013) suggested school leaders are considered to be a critical piece of crisis communication. During this phase, they are responsible for comprehending and communicating successes and failures that took place during the crisis (Kapucu & Khosa, 2013). As a result, Liou (2014) implied that school leaders take inventory and review actions of members to determine how to proceed during the next crisis. According to Paraskevas (2013), this stage is considered to be the

learning stage that teaches the organization not to blame, but take on a learning approach, so they limit their vulnerability and work on creating an effective crisis plan for future incidents. Therefore, conducting a qualitative case study that examines CCS components to ignite awareness of life-threatening crisis is warranted.

## Summary and Conclusions

Literature is limited on CCS components and functions in the K-12 setting, as well as the school principal's role in the system. As a result, the literature revealed that a CCS is critical, and it is necessary that school principals and other school leaders understand the components in a CCS and their role in the system, to respond to and manage a crisis. Also, further research with a large pool of participants is needed to allow generalization and add to the existing body of knowledge. Most importantly, Cowan and Rossen (2013), Hull (2011), Hull (2012), and Liou (2014) stated that crisis communication protocols (systems) in the educational setting is a concern, and understanding a school principal's role will equip them with the necessary tools to be effective in safety and security. For this reason, complex adaptive system's (CAS) theory was used to explore the components of CCS and the school principal's role in the system. The correlation between CAS theory and CCS are the following:

- Communication is the core of CAS theory and CCS. Also, they both include physical and non-physical agents that are expected to communicate, so organization and resilience take place in a complex environment (Hussain & Rawjee, 2014; Palombo, 2013; Veil & Husted, 2012). The physical and non-physical components are human and non-human agents.

- CAS theory is characterized by multiple agents that are diverse in a complex environment. The agents are both proactive and reactive to their environment, so organization and resilience take place in the complex environment. Likewise, CCS include multiple agents that work together to ensure organization and resilience take place to ensure the environment is resilient. The goal of agents in CAS theory and CCS is to make decisions, independently and dependently, based on pre-established principals in the system. Although the principals in CAS theory and CCS are pre-established, the ongoing communication between agents is the means that causes the complex environment to recover. Additionally, the agent's objective in CAS theory and CCS is to achieve a common goal of organization and calmness, in a chaotic environment, through the agents establishing cohesiveness among agents internally and externally (Morrell, 2005; Smith & Bedau, 2000; Veil & Husted, 2012).
- Finally, four main behaviors that describe CAS theory agents' behavior (role) when they respond to and manage complexities in their environment are: (a) self-organization, (b) adaptability, (c) dynamism/stability, and (d) co-evolve/innovative (Morrell, 2005; Smith & Bedau, 2000). These behaviors align with the behavior of CCS. The agents in CCS self-organize through their ongoing communication between agents; the adaptability occurs in CCS through the agent's ability to make decisions, in a system that is open to choose components that allow the environment to recover; stability occurs

> through the agent comprehending his or her role, and innovation occurs through the agent's ability to choose the best method(s) that bring about calmness and resilience in a complex environment (Liou, 2014; Veil & Husted, 2012).

Therefore, the alignment of CAS theory and CCS demonstrates that CAS theory is the plausible choice in exploring CCS in the K-12 educational setting. Also, it provides additional research to help equip school principals with tools to respond to and manage a crisis.

Due to the dynamics of school safety changing and its complexity in the educational setting, the need for school principals is to understand their role in a CCS is necessary (Liou, 2015). A CCS provides school principals with a tool to communicate, respond to and manage a crisis (Veil & Husted, 2012). The study will fill the gap between CCS and the agent's (school principal's) expertise and role in the educational setting. Nevertheless, school districts require that school principals be resilient during and following a crisis. School principals are one of the primary components in a CCS that provides guidance during and following a crisis. Therefore, using NWE Public School District as a tool to obtain feedback from school principals will address the gap and research questions.

# Chapter 3: Research Method

My purpose in this qualitative case study was to use the complex adaptive system theory as the bases for exploring practices of CCS agents among educational leaders to support more effective response and management of the crisis in the K–12 educational settings, as well as to expose the role of school leaders in a CCS, so they are equipped to prevent impending threats and vulnerabilities in the educational setting. According to Cowan and Rossen (2013) and Liou (2014), additional research of crisis communication protocol is necessary to enhance and prepare school districts to respond and return the environment to normalcy following a crisis in the educational setting. Recently, school districts experienced threats that have challenged crisis communication protocols in the educational community (Bluestein & Leslie, 2014; Galemore, 2012). The school districts in Georgia have experienced several crises that have challenged communication and response. These systems include internal and external stakeholders working jointly and independently to ensure the safety and security of the educational environment. The literature revealed that knowledge of CCS' knowledge is limited among school leaders.

In this chapter, I justify the use of a qualitative case study design. Chapter 3 also includes a discussion of how I selected participants, as well as how I disseminated and analyzed the feedback from the participants. I conclude this chapter with a discussion of the possible ethical considerations.

## Central Concept and Phenomenon

In this study, I examined CCS components and the school leaders' role in the system. The phenomenon in this study was school principals' perceptions of CCS agents

and the school principal's role in the system to effectively respond to and manage a crisis in the educational setting. K-12 school systems has been impacted by threats that impact the school principal's role and communication (Liou, 2014). For this reason, Cowan and Rossen (2013) and Liou (2014) suggested that more research is needed to address the role of a school leader's understanding of crisis communication, to prevent impending threats and vulnerabilities in the educational environment.

The concept in the study was CCS components. According to Veil and Husted (2012), a CCS includes internal and external stakeholders working jointly and independently to ensure the safety and security of the educational community. These stakeholders include school leaders who manage communication protocols prior, during, and following a crisis (Kapucu & Khosa, 2013). The external stakeholders are first responders (police officers, paramedics, and fire department) who manage communication outside the educational community to maintain a safe learning environment (FEMA, 2013).

In a CCS, stakeholders labor jointly and independently to communicate and manage communication systems prior, during, and following a crisis. The goal is to protect members and prohibit a crisis from occurring or escalating into an event that results in taking a person's' life and destroying property (Hussain & Rawjee, 2014).

## Research Design and Rationale

### Research Questions

Questions were asked to examine CCS components, the influence CCS has regarding safety and security, and the school leaders' role in the system. In other words,

the research questions were established to address the purpose and the problem statement (Maxwell, 2013). The theory (CAS theory—CAS) is used to create research questions that are relevant and realistic in addressing the problem and purpose statements (Grant & Osanloo, 2014). The questions provided the study with insight into the components that school leaders utilize to prevent impending threats and vulnerabilities. In addition, the questions provided an in-depth examination of the concept in the educational setting. In this study, I asked the following research questions:

Q1: What components of a CCS are used to respond to and manage a crisis in the NWE Public School District, in LMN County?

Q2: How do CCS components influence safety and security in NWE Public School District, in LMN County?

Q3: How does the role of a school principal influence a CCS response and management in the NWE Public School District, in LMN County?

**Research Tradition**

I used a qualitative case study paradigm to examine CCS and the school leader's role in the educational setting. Yin (2014) and Maxwell (2013) suggested a qualitative case study allows for an upfront investigation of the case in its environment to obtain a richer comprehension of the problem, as well as answers to the research questions. The chosen design helped me examine CCS components and school leaders' roles through the lens of the chosen theories (systems theory and CAS theory). In a qualitative case study, the theory provided a foundation and explains how the concept operates in the world (Maxwell, 2013). The investigation was warranted because Cowan and Rossen (2013)

suggested additional research of CCS in the educational setting is necessary to enhance preparedness and response among school leaders.

According to Merriam (2001), the cases examined in a qualitative methodology can be viewed as a unit, people, a program, group, or system. Likewise, Maxwell (2013) defined a *qualitative case study* as an in-depth analysis of a phenomenon that gathers data over time, in a "bounded system." A bounded system is chosen for various reasons such as access to the data collection site and participants, the ability to spend the time to gather data, and the system is interesting or gaining a general understanding of the phenomenon (Hancock & Algozzine, 2011). Furthermore, a bounded system is chosen because it helps understand the phenomenon and the participants' role in the phenomenon (Putney, 2010). Therefore, I chose NWE School District as the bonded system to obtain feedback from school leaders regarding CCS.

My purpose in this qualitative design was to obtain a rich and descriptive analysis of the phenomenon, so that I could gain understanding and address the research questions. As data are collected, a qualitative method examines the behavior, words, and remarks from participants in the field (Merriam, 2001). Most important, a qualitative case study uses a systematical approach that aligns with the theory used to explain the phenomenon (Hancock & Algozzine, 2011). In other words, the bounded system is seen as one system with different parts that work jointly within a system (Hancock & Algozzine, 2011). Systems theory is defined as units working jointly within a system, to understand the functions and roles in the system (Thomas & Parsons, 2016). CAS theory provides additional support to systems maintaining during a crisis (Palombo, 2013).

Therefore, school leaders are the units in the school (bounded system) to ensure the learning environment is safe and secure from vulnerabilities and threats. Therefore, using one school district as a source to obtain feedback from school leaders in the educational setting aligns with a qualitative case study method and the chosen theories.

The chosen tradition of a qualitative case study is necessary for various reasons. In particular, Cowan and Rossen's (2013) and Liou's (2014) studies indicated the need for further research to gain an in-depth understanding of CCS and school leaders' role, so they are equipped to manage a crisis. The use of a Utopian Academy provides the study with access to s school leader, so an in-depth examination of the phenomena is possible. Also, the chosen tradition aligns with the research question because it examines the phenomenon. According to Putney (2010), a case study that seeks to understand further the phenomenon is essential in gathering data. Therefore, using this research design provided insight into CCS components and school leaders' role in the educational setting.

**Research Rationale**

According to Marshall and Rossman (2016), a qualitative research method is conducted in the "natural world, and the designs are completed through various methods" (p. 3). Specifically, the study was viewed as holistic (Marshall & Rossman, 2016). Likewise, the chosen theory for this study (CAS theory) focuses on the whole versus an individual unit analysis (Palombo, 2013). Also, a qualitative method is an approach that is conducted in the field of Social Science and the study is concentrated in the field of social science (Public Policy Administration and Homeland Security Coordination). Also, Maxwell (2013) explained that a qualitative research allows the study to examine the

phenomenon through a small number of people or unit and use the data to provide a generalization of the phenomenon. The design also uses a qualitative method to understand the depths or importance of variables through non-numerical data (Remler & Van Ryzin, 2011).

In contrast, Hancock and Algozzine (2011) suggested a quantitative method investigates the phenomenon (CCS) through numerical data, but the objective is to test the relationships between variables (CCS, school leaders, awareness, educational environment) and conduct a study to gain an in-depth understanding of the phenomenon. A quantitative method analyzes the relationships between variables to test a proposed hypothesis and does not provide an in-depth understanding (Marshall & Rossman, 2016). This study did not seek to test a hypothesis, instead, to examine the phenomena in the field of their reality and add to the body of knowledge for future research and understanding. Additionally, Yin (2014) suggested a qualitative case study methodology is conducted to examine the in-depth meaning and understanding of a program, people, organization, or unit in their environment, to contribute to the existing body of knowledge.

The mixed method includes some elements of both qualitative and quantitative research (Creswell, 2014). In other words, a mixed method study uses some procedures from a qualitative and quantitative method to research an issue (Hoe & Hoare, 2012). Specifically, a mixed method study tests hypotheses and this study did not test a hypothesis. Instead, it conducts an in-depth investigation of the phenomenon in its environment to obtain an understanding that a quantitative methodology will not produce.

Therefore, the utilization of a mixed method research or a quantitative methodology is not plausible for this study.

To justify the rationale of a qualitative research versus a mixed method or quantitative method, I examined several research studies that applied qualitative methods to examine the phenomena (school leaders' role and crises in the educational setting). Hussain and Rawjee (2014) conducted a qualitative study to expose and describe the gaps in crisis communication in the educational setting. Also, Koch, Niesz, and McCarthy (2013) provided research in the professional community through participants that provide feedback in the study. For example, Hull (2012) conducted an in-depth investigation to understand what changes are needed to enhance crisis management and its processes among school leaders. The results provided research to the field of safety and security in the educational setting. To further justify a qualitative research model, Liou (2014) conducted a qualitative study to understand school leaders' approach in managing a crisis. Therefore, conducting a qualitative study to examine CCS components and school leaders' role, to ignite awareness of crisis communications in the educational setting is warranted.

## Role of the Researcher

In a qualitative case study, the role of the researcher is to function as the primary instrument that collects and analyzes data obtained from participants (M. Q. Patton, 2002; Staller, 2010). The secondary instruments are interview questions that are used to examine the phenomenon and content in the study (M. Q. Patton, 2002). As the primary instrument, the researcher manages the gathering and examination of all data, and writes

the study (M. Q. Patton, 2002). Before collecting data, the researcher secures permission from IRB to begin collecting feedback from participants. According to Staller (2010), the researcher must be transparent in his or her role and approach in a qualitative study (Staller, 2010). Therefore, explaining the researcher's affiliation and approach in this qualitative case study is necessary.

Currently, the researcher is a resident in Georgia and has a child that attends school in one district. The researcher is working to establish a professional relationship that allows the researcher to use one school district as a source to collect and analyze feedback from school leaders. According to Creswell (2013), M. Q. Patton (2002), and Staller (2010), the researcher is the primary instrument who collects, analyzes, and organizes data from the start of the study to the end. Therefore, the potential risk of bias becomes a question in the study.

In a qualitative study, the researcher can include his or her beliefs, ideas, and experiences into a study that he or she has personal knowledge (Staller, 2010). To manage issues of bias and power, the researcher conducts the study with no preconceived objectives. According to M. Q. Patton (2002) incorporating a "goal-free" method into research allows the researcher to focus on the phenomena and gather information without having beliefs, ideas, and experiences cloud their findings.

## Methodology

The methodology section provides a detailed explanation of the study design. The topics include a discussion of the chosen population, the instrument, and the process to

collect data. It also includes a discussion of procedures to recruit participants and the data analysis plan.

**Participant Selection Logic**

The participant population includes 20 school leaders (principals and assistant principals) who are employed by the NWE School District in LMN County. School leaders are defined as principals and assistant principals (Fuller et al., 2016; Hull, 2011; Liou, 2014). According to Maxwell (2013) participants who are selected through purposeful sampling are based on research relevant to the research questions, the purpose of the study, and phenomenon in the setting. For example, the research questions are examining CCS components in an educational setting as well as the role of school leaders in the system. The purpose of this qualitative case study is to use complex adaptive system theory to explore school principal's perceptions of CCS agents and their role in the system, to effectively respond to and manage a crisis in the educational setting.

Hull (2011) and Liou (2014) interviewed school leaders in the educational setting to further research on crisis management among school leaders. As a result, Hull (2011) and Liou (2014) suggested further research is needed to enhance crisis communication among school leaders in the educational environment. Therefore, using school leaders as the participants in the educational setting justifies using purposeful sampling as the strategy.

Purposeful sampling involves different strategies to select participants. In this study, criterion sampling was used. A criterion sampling technique is used to ensure that information is rich and participants are chosen because they benefit a specific

phenomenon. In this case study, the phenomenon is understanding school principals' knowledge of a CCS, in the K-12 environments. To solicit participants through criterion sampling, an inclusion and exclusion protocol was used to choose principals and assistant principals who are critical to the research (Suri, 2011). The inclusion and exclusion conditions are explicit (Suri, 2011). The inclusion conditions include:

- Occupation/role (employed as a principal or assistant principal);
- System (Employed in the NWE School district—elementary, middle, or high school);
- Time—1 academic year (August to May).

The exclusion conditions include:

- Occupation/role—No individual who is not a principal or an assistant principal such as a teacher, counselor, and school nurse was selected.
- System—No one that is a principal or assistant principal in the district at a charter school or center was selected. Also, no one employed as a principal or assistant principal outside NWE School District was interviewed.
- Time—No one that is employed as an interim principal and assistant principal in the NWE Schools K-12 school districts was selected.

Unlike theory-based sampling that locates hypothetical examples to explain the phenomena or combination sampling that allows flexibility in meeting concerns and desires (M. Q. Patton, 2002), the study is centered on gaining an in-depth and clear understanding of the phenomena from participants in the field. In this case study, the participants are school leaders who are defined as teachers and principals. The study did

not address a theory or the desires of others. Instead, criterion sampling selects participants based on conditions and their experience with the phenomena. Most importantly, it provides the research with rich and quality data from school leaders in the field (Benoot, Hannes, & Bilsen, 2016).

The purposeful sampling strategy identified a total of 20 principals and assistant principals from NWE School District because they are critical to addressing the intent of this qualitative case study (Benoot et al., 2016). Additionally, M. Q. Patton (2002) suggested that this strategy will provide rich information and expose the issues with the phenomenon in the setting. As a result, purposeful sampling enabled the study to provide suggestions for systems improvements. To accomplish this goal, the recruitment included the district research department providing access to interview participants in the district. Once access was received, principals and assistant principals that meet the purposeful strategy criteria were contacted to participate through email and phone. Next, the participants were interviewed in person, by phone, or Skype after receiving their agreement to participate. After the interviews were conducted, the objective was to determine if there were enough data to address the research questions and purpose statement. In other words, the objective was to determine if the data were saturated with the established sample size.

According to Saumure and Given (2008), data saturation is the process of collecting data until the feedback starts repeating. In this study, the sample size was 20, so an additional 2 to 5 participants were solicited from the pool of candidates. According to Saumure and Given, 20 to 25 participants are needed to achieve saturation in a study.

Therefore, determining the appropriate sample size and saturation of information to complete the study is critical. According to M. Q. Patton (2002), the appropriate sample size is based on the individuals or group interviewed and the themes that emerge from the population in the social setting. The purpose of the study was to determine the CCS components in the educational setting and the school leaders' role to prevent impending threats and vulnerabilities. Thus, the relationship between saturation and sample size is interviewing participants until the feedback produces themes that continue to repeat. For this reason, once feedback and themes started to repeat, saturation was achieved, and no further interviewing was necessary.

**Instrumentation**

The School Crisis Management Competencies Instrument (SCMCI) was the primary instrument used in this study. The original questions were modified to assure relevance to the respondents and topic. Modified questions were read by the developer of the original instrument for approval before use. On May 6, 2015, Dr. Sean P. McCarty, Assistant Superintendent of Seneca Valley School District, and creator of the SCMCI provided permission to modify and use the instrument for this qualitative case study (See Appendix X). The tool was published in Dr. McCarty's dissertation from the University of Pittsburgh in 2012. The SCMCI is used to determine the level of familiarity with crisis management components among school leadership. The instrument probes the respondent on communication processes and the perceived communication and crisis management roles of school leaders (Veil & Husted, 2012).

The second research question explores how the components of a CCS influence safety and security in the educational setting. The question in the instrument is “how to develop a crisis communication plan” (McCarty, 2012, p. 90). Additional questions in the instrument were used and modified slightly to answer the first research question. These questions were composed to inquire on crisis management as well as crisis communication. The modification included only the use of questions that address crisis communication processes, school leaders’ roles, and CCS, so it met the need of this study. Dr. McCarty agreed to examine and validate the changes. The next central question is how a school leaders’ role influence CCS in preventing threats and vulnerabilities in the educational setting.

In the original SCMCI, one item addressed the question “how to define roles and responsibilities of a crisis team” (McCarty, 2012, p. 89). The question was modified to ask “how do you define the responsibilities of a school leader in a CCS.” While the essence of the question remains the same, the emphasis is placed on the “school leader,” rather than the “team.”

It is important to note that the original SCMCI instrument was validated through several governmental documents from the U. S. Department of Education, The Incident Command System (ICS), U. S. Secret Service, and several scholarly practitioners. Therefore, the instrument has a high level of validity and reliability and is appropriate for use to study crisis communication among school leadership in NWE School District.

### Instrument Validation

Determining the appropriate research questions is critical in a qualitative case study because they are created to examine what should be addressed and understood regarding the phenomenon (Yin, 2014). Once the research questions were established, interview questions were created to obtain an in-depth understanding of the phenomenon from participants in the field (Maxwell, 2013). The interview questions were specific questions taken from Dr. McCarty's instrument. The instrument was validated through several governmental documents from the U. S. Department of Education, The Incident Command System (ICS), U. S. Secret Service, and several scholarly practitioners (McCarty, 2012). Yet, changes were applied to the instrument, so it addresses the research questions. The creator of the instrument, Dr. Sean McCarty, an Assistant Superintendent of a school system in Pennsylvania, agreed to the changes and validated the modified research questions located in Appendix B. Additionally, Dr. Shannon A. Flounnory, the Executive Director of Safety and Security of Fulton County Schools in Atlanta, Georgia, validated the interview questions that were used to collect data from principals and assistant principals in the educational setting. (Fulton County Schools, 2014).

## Procedures for Recruitment, Participation, and Data Collection

### Recruitment

The recruitment process included completing a formal application with the NWE Public School Research Department (FCSRD) requesting access to solicit principals and assistant principals in the district. Before soliciting participants, permission to conduct

research was obtained from IRB at Walden University, to ensure there is no potential harm or risk to the participants. Once IRB provided permission to conduct the study, the approval letter from IRB was provided to the research department at NWE School District. Next, Captil Schools' research department provided access to solicit principals and assistant principals (participants) in the district. Participants (principals and assistant principals) were contacted by email and phone to participate in the study and sign a consent form. A signed consent form was required from all participants before the interview took place. The informed consent form provided detailed information on the following:

- The purpose of the study and the process used to collect feedback
- Information regarding privacy and confidentiality
- The benefit of the research and feedback
- The signature of the participants and researcher (M. Q. Patton, 2002).

Once the consent form was signed, the data collection process began. Consent forms were sent to participants through email, explaining the study, and scheduling times to interview and collect data.

Before collecting data in a qualitative study, it is critical to understand the environment and the subject investigated (Hancock & Algozzine, 2011). To accomplish this understanding, Merriam (2001) suggested that the researcher spends time in the field and gains a rapport with the unit (NWE Public School District) and the cases (school principals) investigated. Therefore, three to four weeks were devoted in the field, collecting, and analyzing data. Therefore, three to four weeks will be devoted in the field,

collecting, and analyzing data from 20 participants. Based on Yin (2014), 15 to 20 participants are needed to build support for the theoretical based in the study.

**Participants**

Participants (principals and assistant principals) were selected from a large pool of candidates in the NWE School District. Participants were selected from a large pool, so the data were rich, and the large pool of participants provided a generalization in the study (Putney, 2010). From the pool, the selection process was based on criterion sampling. Criterion sampling is the process of selecting participants' base on predetermined criteria. The criteria conditions included:

- Occupation/role (employed as a principal or assistant principal),
- System (Employed in the NWE School district—elementary, middle or high school),
- Time—1 academic year (August to May).

Once 20 participants (principals and assistant principals) were identified through the predetermined criteria, they were contacted to participate in the study by email and phone. In a qualitative study, there is no set number of participants because the goal is to collect data that is rich until it begins to repeat, and themes emerge (Cleary, Horsfall, & Hayter, 2014). Yet, Yin (2014) suggested 15 or more cases (participants) are needed to support the theory used in the case study. Therefore, 20 participants were interviewed to achieve generalization, support the theory, answer the research questions, and address the purpose of the study.

Generalization in a qualitative study is critical because it builds and adds knowledge in the field for others to study (Paul, 2001). In this qualitative study, Cowan and Rossen (2013) and Liou (2014) implied a pool of participants is needed, so the information is rich and provides generalization in the study. As the data were collected from each participant, they were typed as notes on a laptop and saved on an external hard drive. According to Merriam (2001) and M. Q. Patton (2002), some researchers take notes because it allows the researcher to recall critical points and information to include in the study. Although data were initially collected and organized manually, SurveyMonkey was used to generate commonality among responses from participants.

**Data Collection**

Hancock and Algozzine (2011) and Merriam (2001) suggested that a case study benefits from having more than one participant because it ensures that the study is rich. In a qualitative case study, it is critical that different types of data and methods are used (M. Q. Patton, 2002). This process is called triangulation. It is costly and depends on the researcher's time and resources to complete the study (M. Q. Patton, 2002). Therefore, the researcher interviewed 20 participants in two months. The interviews took place face-to-face, by phone, and Skype. Face-to-face interviews are good, but telephone interviews are great because of time (Data Gathering, 2004). The objective is to complete the study and consider the time of each participant and resource.

The interview process was a mixture of semi-structured and structured interview methods. The interviews included open-ended questions with the flexibility to ask follow-up questions, if needed, based on responses from participants (Merriam, 2001; Staller,

2010). A highly structured interview method was not used solely because it did not allow the participants to provide their thoughts and point of view that contributed to rich data. Instead, a structured interviewed has no flexibility to ask follow-up questions from previous questions. In other words, a structured interview does not address the intent of the study and allow the participants to be transparent and express their thoughts regarding the phenomenon. The intent of this qualitative case study was to investigate CCS components and the school leaders' role in the system. To accomplish this investigation, a semi-structured interview is needed because it allows flexibility (Merriam, 2001; Staller, 2010).

Each interview took between 45 to 60 minutes in length. Before conducting the interview, the participants were advised that the researcher would take notes. This method includes typing feedback and storing the notes on an external hard drive. According to Merriam (2001) and M. Q. Patton (2002), some researchers take notes because it allows the researcher to recall critical points and information to include in the study. Exiting each interview with the participant:

- Participants were thanked for participating in the study.
- Participants were asked if they would like to add information that was not covered in the interview.
- The researcher explained the purpose of the study and the importance of their feedback.
- The participants were advised that their information is confidential.

- Finally, the participant was advised that they would be provided a copy of the information through email within 48 to 72 hours to ensure the information collected is correct, once the data were organized.

**Data Analysis Plan**

The interview responses were organized and transcribed manually and then uploaded into SurveyMonkey to generate a text analysis. SurveyMonkey provides a new text analysis feature that utilizes an automatic intelligent analysis of text responses, including categories and coding. The Text Analysis identifies the Most Important Words, Phrases, and Categories. The frequencies with which terms appear are displayed, while also applying linguistic rules such as stemming, clustering, and scoring words and phrases based on uniqueness. Visual trends and bar charts in responses are also provided (SurveyMonkey, 2017). Before uploading the responses into SurveyMonkey, the data were coded to protect the identity of participants. The coding technic used a unique pattern of numbers and letters, representing each research question, interview question, and participant:

Q1: What components of a CCS are used to respond to and manage a crisis in the NWE Public School District, in LMN County?

Q2: How do CCS components influence safety and security in NWE Public School District, in LMN County?

Q3: How does the role of a school principal influence a CCS response and management in the NWE Public School District, in LMN County?

Q1 represents research question 1, Q2 represents research question 2, and Q3 represents research question 3. Next, the identification of principals and assistant principals were labeled as P for principals and A for an assistant principal. Also, letters were used to identify each participant to conceal their identity. A total of 20 letters were used excluding Q, P, and A. Q was not used because it was used to identify central questions. P and A were not used to identify which response is from a principal and assistant principal. Instead, the following 20 letters were used to represent their response to each question: B, C, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V and W.

To employ additional organization and clarity to the coding process, Q1 (central question 1) has 1 question, Q2 (central question 2) has 3 questions, and Q3 (central question 3) has 2 interview questions. Each interview response was coded using a unique letter and number pattern. Additionally, P represents principals, and A represents assistant principals. An example of the coding is Q1-1PB (Q1 is central question one, dash, one is the interview question under central question 1, P represents principal, and B is the identity of the person participating in the study. B is used instead of the participant's name to protect his or her identity (Yin, 2014). The letters (B, C, D, E, F, G, H, I, J, K, L, M, N, O, R, S, T, U, V, and W) were assigned to each participant. For example, if John Doe, Sarah Doe, April Doe, and Sam Doe were participants it preceded as follows:

- John Doe, Principal – B (Q1-1PB; Q2-1PB, Q2-2PB, Q2-3PB; Q3-1PB, Q3-2PB)
- Sarah Doe, Assistant Principal – C (Q1-1AC; Q2-1AC, Q2-2AC, Q2-3AC; Q3-1PC, Q3-2PC)

- Sam Doe, Principal – D (Q1-1PD; Q2-1PD, Q2-2PD, Q2-3PD; Q3-1PD, Q3-2PD)
- April Doe, Assistant Principal – E (Q1-1AE; Q2-1AE, Q2-2AE, Q2-3AE; Q3-1PE, Q3-2PE)

Using the unique pattern of letters and numbers provided organization, and clarity, during the data collection, and analysis process. The content that emerged from each (case) participant continued until the researcher began to see the data repeating and themes emerging from the text analysis in SurveyMonkey. At this point, the repeating data meant that the data were saturated (M. Q. Patton, 2002). Once the data were saturated, the data were sufficient, and no further investigation was needed.

In a qualitative case study, the amount of data collected is vast, and it is critical that information be organized and timely (Merriam, 2001; M. Q. Patton, 2002). Specifically, initial data analysis requires the researcher to collect and analyze data simultaneously in a qualitative study (Hancock & Algozzine, 2011). During the analyzation process, the researcher is continuously reviewing, deliberating, and recording data (Merriam, 2001). Therefore, Evers and van Staa (2010) outlined several processes that were utilized to gather and analyze data:

- Become familiar with the data, review notes, and review literature.
- Next, disseminate the data into different components with codes that describe various data. For example, the code should be short phrases that describe the themes.
- Thirdly, data will be compared to determine similarities and differences.

- Finally, an in-depth examination of themes was conducted to address the research questions.

These procedures were used to analyze a case study examining humiliation of HIV/AID cases in Jamaica (Evers & van Staa, 2010). This qualitative case study used these procedures with some inclusions and changes. The researcher used the following:

- In the field, a computer was used to take notes from participants.
- Once the interview was complete, the data were organized and coded manually, before uploading the data into SurveyMonkey to conduct a text analysis. The analysis determined the commonality among responses.
- The analyzation began through words and short phrases emerging to organize, manage, and categorize data according to research questions.
- This process analyzed and disseminated the data through grouping information together. For example, all responses for central question one questions were grouped to aid the process of creating words and phrases to be less complicated.
- Next, an in-depth analysis of the themes and responses were conducted to determine CCS components and school leaders' roles in the educational environment.

SurveyMonkey allows the researcher to manage and analyze coded data. Following each interview, the data were organized and coded manually before uploading into SurveyMonkey to generate themes. If during the investigation, discrepant data emerges and does not support the study, the data will be investigated. Discrepant data

should be investigated rigorously with the supporting data because it is logical in validating and testing qualitative research (Lewis, 2009). In this study, there was no discrepancy in data to investigate.

## Issues of Trustworthiness

Maxwell (2013) explained that qualitative validity is investigating the truthfulness of the data by employing certain procedures that maintain consistency throughout the study. Yin (2014) suggested using several approaches to accomplish internal validity, external validity, and dependability, in a qualitative case study is necessary. The utilization of triangulation, participants' feedback to check for accuracy, and spending a long time in the field were utilized in this study

### Credibility

To decrease issues of internal validity, the following methods were employed:

- Participants that meet the criteria were chosen to participate in the study (Yin, 2014).
- The researcher requested a large pool of schools, so it would account for any cases that drop from the study or the need for more participants to research saturation (Yin, 2014).
- The researcher used multiple sources to investigate the phenomenon such as government documents, interviews, and the literature review (Merriam, 2001).
- Also, the researcher reviewed the findings with participants in the field and obtained their feedback regarding accuracy (Merriam, 2001).

Triangulation is used to examine, recognize, and comprehend the data from different participants regarding the phenomenon (Rothbauer, 2008). In other words, information was taken from each participant to generate context that establishes an understanding of purpose and research questions as the theory is used as a guide to obtain the evidence. During the one-month data collection, there were two times participants were contacted outside any follow-up. The first time was to obtain initial data and the second time was to discuss the themes established to ensure they were accurate. Finally, collecting data from four to six weeks demonstrated a prolonged time in the field and an in-depth understanding of the issue under investigation (Creswell, 2014).

**Transferability**

Next, the study addressed transferability (external validity). The intent was to ensure incorrect information was not drawn from the data studied (Creswell, 2014). To ensure external validity was not an issue, research was based solely on crisis communication system components and school leaders' role in the educational environment. There was a mixture of different genders and individuals with two different titles (principal and assistant principal) in the educational setting. Also, the settings were a combination of different times and no more than two participants in the same schools. To ensure external validity is not an issue, the researcher should change the setting and interview people with different experiences (Creswell, 2014). Participants were selected based on the title of principal or assistant principals. This type of purposeful sampling is criterion sampling strategy. It requires participants to meet certain conditions, so the data collected are rich (M. Q. Patton, 2002).

**Dependability**

Next, the following were conducted to ensure the information was reliable by doing:

- Auditing all transcripts to correct any errors (Creswell, 2014).
- Comparing codes to data retrieved in the field (Creswell, 2014; Merriam, 2001).
- Also, using SurveyMonkey. It is reliable and used to analyze case study research (Freeman-Herreid et al., 2016).

In each process, the primary instrument was used to ensure the feedback and data retrieved in the field were dependable and accurate.

**Confirmability**

Lastly, the goal was to achieve conformability through understanding the phenomenon (CCS), and the participants (school leaders) role in the educational setting (Jensen, 2008). Also, the study established confirmability in the qualitative study through quality checking the data, continually comparing data to the themes, and taking notes (Creswell, 2014; Merriam, 2001). In-depth understanding of the study was necessary to respond and manage any bias. Finally, "confirmability will be achieved through providing a clear and open description of how the data is collected, analyzed, and provide examples of the coding process in the final dissertation" (Jensen, 2008, p. 4).

**Ethical Procedures**

Ethical consideration was given to the source and participants through instructions provided by IRB. Professional behavior and confidentially were administered throughout

the study. Specifically, there was no personal relationship between the participants and NWE Public School System. Instead, the rapport was professional and sought to build upon the established body of knowledge. As a result, ethical concerns were limited.

First, approval to collect data was secured from IRB. Once approval was obtained from IRB, NWE Public Schools were contacted, and they were provided with a copy of the IRB approval to begin collecting data. Next, setting up times to interview and collect data began. All participants were given an interview protocol sheet to complete documentation of their permission to use them as a participant in the study.

Once approval was provided by IRB and the school to solicit participants, ethical concerns with participants, erroneous responses, and misinterpretation of the issue were considered. Purposeful sampling ensures quality feedback and participants who know the issue (Creswell, 2014). If early signs of refusal or withdrawal from participants were evident, the participant was reassured that his or her feedback was confidential and all information was to be stored in a secure file and locked in a safe. Also, the interview protocol sheet included specific information such as date, time, place, a summary of the project, questions that inquire on the participants' years of service, gender, ethnicity, school, grade level, and the list of open-ended questions that addressed the research questions one and two.

## Summary

The content discussed in Chapter 3 provides specific methodology and procedures used to examine CCS and school leaders' role in the educational setting. Participants were selected from a large pool of school leaders from Utopian Academy. As a result,

this qualitative case study generalized information because the participants were selected from a large pool of qualified diverse candidates (Remler & Van Ryzin, 2011).

# Chapter 4: Data Collection, Analysis, and Results

The purpose of this qualitative case study was to examine school leaders' understanding of CCS. Three central questions were established using CAS theory as a lens to create questions that examined school leaders' perceptions of crisis communication system (CCS) agents to support more effective response and management of crises in the K–12 educational settings. In Chapter 1, CAS theory was determined to be a plausible choice because the theory provides a lens that examines CCS agents in a complex environment and the school leaders role as they respond to and maintain safety in the educational setting (Aydinoglu, 2013). Therefore, three central questions were established using CAS theory to examine school leaders' understanding of CCS in the K-12 educational setting. Central question one examined school leaders' insight regarding CCS agents (CCS); central question two examined school leaders' perceptions of CCS influence on safety and security; and central question three examined school leaders' understanding of their role in a CCS.

Q1: What components of a CCS are used to respond to and manage a crisis in the NWE Public School District, in LMN County?

Q2: How do CCS components influence safety and security in NWE Public School District, in LMN County?

Q3: How does the role of a school principal influence a CCS response and management in the NWE Public School District, in LMN County?

Chapter 4 begins with an examination of the research setting, and then a discussion of the system posed in Chapter 3 to collect data. Next, the chapter provides an

explanation of the data analysis utilized, and a report of the data collected with figures that provides additional insight into participants' perceptions. The chapter closes with a summary of the data reported and an introduction to Chapter 5.

## Research Setting

To address the research questions, school principals and assistant principals in NWE Public School District, in LMN County, participated in the study. The school district consists of K-12 schools from the north to the south side of one of the largest school systems in the state. Principals and assistant principals throughout the district participated in the study. Participants were professional, and had no organizational or personal conditions that limited them from participating in the study. A total of 20 principals and assistant principals were interviewed from June 2018 to August 2018. The participants scheduled at least one hour to participate in a 7-question interview, face-to-face, (see Table 1) and by phone (20% of the participants).

## Demographics

The school district is divided into two metropolitan areas: south and north. Participants included females and males who possess the title of principal or assistant principal, for at least 2 or more years in the district. Several principals served as an assistant principal at their current campus or in the region. The district demonstrated its focus on hiring from within and promoting assistant principals to principals within the region. If an email was overlooked because an assistant principal was promoted to the position of principal, the interview was eventually rescheduled. Additionally, the

participants were professional, yet they remained true to the interview time due to their busy schedule for the upcoming year.

The structure in the school district is unique for middle schools and high schools. Safety and security in the middle and high school were designated to one assistant principal by the principal to manage. Although this was the case, the principal worked jointly and independently with the designated assistant principal to ensure internal stakeholders were trained and understood their role in the case of a crisis. The structure of assistant principals in the middle and high school was comprised of one assistant for each grade level. Within this structure, the assistant principal is responsible for the safety and security of that grade level or hall in a crisis. In other words, the assistant principal must account for teachers and students in that grade level or hall and report the information to the designated assistant principal that was assigned to safety and security. In preparation for each school year, principals and assistant principals attend mandatory safety and security meetings to absorb their role and district policies, regarding communication and protecting stakeholders prior, during, following a crisis. The communication in the district is composed of human and technical agents. Likewise, a CCS is a system that is comprised of human and non-human agents (Veil & Husted, 2012). These agents communicate and report suspicious behavior and people to prevent an imminent threat (Veil & Husted, 2012). Specifically, the district created an app that allows personnel, parents, and students to report incidents and safety concerns via phone. The intention is to be proactive, in protecting stakeholders in the educational environment.

The participants discussed crises that impacted learning and influenced the safety of students in the K–12 setting. The participants were professional men and women who possess knowledge of CCS as a method and tool to facilitate communication prior, during, and following a crisis in the K–12 setting. Additionally, it was evident through the participant body language that the topic was sensitive but vital to discuss. Therefore, once several interviews were scheduled, the process was weekly from June 2018 to August 2018.

## Data Collection

According to Turner (2010), interviews are advantageous for researchers who are apprentice collecting data and the method provides the study with an in-depth exploration of the phenomena. The data represent 45% of participants from the south and 55% of the participants from the north. The interviews took place once the participant expressed his or her interest in participating in the study through an email from the researcher. The interview was scheduled, and the participant was sent a consent form and copy of a district letter that stated the researcher was granted permission to collect data in the district. The objective was to interview 20 participants from the north and south of the school district within 2 months, through face-to-face or phone interviews, to save time and money (Opdenakker, 2006). Also, data such as a chart with organized and compact data are essential in drawing inferences and understanding in a qualitative study (Mayer, 2015; Williamson & Long, 2005). Therefore, Table 1 provides an in-depth, small, and detailed display of the demographics (interview method, region in the district, years in the role, and participant gender).

Table 1

*Description of Study Sample (N = 20)*

| Variable | ***N*** | % of participants |
|---|---|---|
| Interview | | |
| Phone | 4 | 20 |
| Face-to-face | 16 | 80 |
| The school district region | | |
| North | 11 | 55 |
| South | 9 | 45 |
| Years in school leadership role | | |
| 1-2 | 7 | 35 |
| 3-4 | 3 | 5 |
| 5 or more | 10 | 50 |
| Gender | | |
| Male | 9 | 45 |
| Female | 11 | 55 |

Prior to collecting data from the elementary school, middle school, and high school principals and assistant principals, an email was sent to the principal requesting permission to collect data. The email included the purpose of the research, the protocols the researcher would implement to collect data, and a copy of the school district's permission letter to collect data. Following this process was necessary, so principals understood the researcher was authorized to collect data in the district.

Once an initial email was sent to participants, a phone call was placed in 1–2 days to determine the participant's interest in participating in the study. Reaching out through

email and phone was necessary because approval was provided during the summer months. During the summer, assistant principals were out until 2 weeks prior to school starting, and the school principals' schedules were limited during the summer months. An Excel spreadsheet was created to maintain a record of communication, the number of participants participating in the study, and organization for all participants. The Excel document included the date of communication, scheduled interview, and when the school did not want to participate in the study. Once communication was established, the row was highlighted in yellow. Blue was used to highlight rows that the researcher scheduled an interview, and orange was used when the school was not interested in participating in the study. Once the interview was scheduled, the participant was sent a meeting invitation through the researcher's Walden's email to the participant's school email address. Subsequently, the researcher and the participant accepted the meeting invitation, and the interview was successfully scheduled. The interviews were conducted face-to-face or over the phone. Opdenakker (2006) suggested that in a qualitative case study, interviewing participants face-to-face is advantageous because it allows the researcher to observe social cues and the environment; whereas phone interviews are conducted to save time, money, and allows the participant to connect with cases that are difficult to connect.

Four interviews were conducted by phone whereas 80% were conducted in person. In a qualitative case study, the objective is to have an upfront observation and understanding of the environment and the cases (Maxwell, 2013). For this reason, 80% were face-to-face and lasted 45 minutes to an hour. Responses were typed on a computer and saved to an external hard-drive as the participants responded to the questions in a

semi-structured environment. The interviews were open-ended questions that allowed respondents to explain their thoughts and observation regarding CCS in the K–12 setting. As a result, the interviews allowed the researcher to obtain an up-close observation and understanding of the issue and the participant's role (Wiederhold, 2015). The number of participants (principals and assistant principals) from each location was relatively the same. Although the number of female participants in the south was disproportionate from the number of male participants in the south, the overall collection of data from the north and south combine was balance.

Additionally, 50% of the participants were in their role as a principal or assistant principal for at least 5 or more years. Once the interviews were complete, participants were informed that an email would arrive within 72 hours following the interview. Next, the raw data were cleaned and organized through correcting grammar and ensuring the data corresponded with the interview questions, within 24 hours (Rose & Lennerholt, 2017). Once complete, the responses were returned to the participant to member check and return to the researcher within 2 days, if changes or inclusions were warranted (Houghton, Casey, Shaw, & Murphy, 2013). In a qualitative case study, a member check adds credibility to the data collected (Houghton et al., 2013). A member check is a participant reviewing his or her responses to verify that the data transcribed was correct (Houghton et al., 2013). If no response was received, the data were uploaded into SurveyMonkey. For this reason, all participants were sent an email to review data to conduct a member check.

SurveyMonkey was a tool used to store data using a template. The tool allowed the researcher to organize each interviewee response with identification in a template that was categorized and sorted. The categories included (a) central questions, (b) code section, (c) section to select principal or assistant principal, (e) school level, (f) a section that discussed the region the school was located, (g) a section that listed the participant gender, and (h) a section that listed each interview question and response. Once the participants reached 20, the interview templates (see Appendix F) were uploaded into NVivo, to be coded, and analyzed.

## Data Analysis

In a qualitative study, the researcher analyzes literature, interview responses, and documents that explain the research questions and gain additional insight into the problem and answer the research question(s) (Clark & Vealé, 2018; Maxwell, 2013). The problem investigated CCS and the role of the school leader in a K-12 educational setting. The participants were principals and assistant principals who participated in a 7-question interview formulated from 3 central questions. These central questions were established from complex adaptive systems theory. CAS theory was used as a lens to gain an in-depth understanding of different agent's roles in CCS According to Maxwell (2013), there is no specific method to analyze qualitative research. Instead, the process should be planned and organized, should address the research questions, and is essential to the study (Maxwell, 2013).

In this study, CAS theory was chosen because the theory provides a lens to examine agents, and their role in a complex environment while determining the outcome

(Aydinoglu, 2013). A crisis in an educational environment can challenge communication and the role of a school leader (Cowan & Rossen, 2013; Liou 2014). A theory is used to assist the researcher in identifying categories and themes to avoid opinions and maintain validity, reliability from semi-structured interview responses (Cakmak et al., 2015). For this reason, themes were created, and established using the theory as a lens to recognize categories, common themes, and patterns in the data. In Chapter 2, CAS theory components were researched and established through scholarly literature that encompasses 3 categories (components, influences, and behaviors) with more than 2 themes for each category. CAS theory is defined by Smith and Bedau (200) as a theory that examines crisis communications systems in a complex environment, together with their elements (agents, CCS, chaotic event) that ultimately adapt, and self-organize in a complex, evolving environment. Therefore, the theory was plausible in creating and establishing research questions.

In describing specific themes that emerged from the interview responses, understanding CAS theory to identify different themes from each participant was necessary. Each participant was given a code name (identifier) to protect their identity, and maintain confidentiality and anonymity in the qualitative study (Clark & Vealé, 2018; Lancaster, 2017). Identifiers were taken from the alphabet and paired with the letter P and AP. P was used to identify principals' responses, and AP was used to identify assistant principals' responses. Alphabets A, P, and Q were not used because P was used to identify principals' responses, AP represented assistant principal, and the letter Q was used to identify the central questions on the template. As a result, the following 20 letters

were used to identify participants: B, C, D, E, F, G, H, I, J, K, L, M, N, O, S, T, U, V, and W. Letters B, D, E, F, G, J, L, and T were paired with P to identify principals and C, H, I, K, M, N, O, W, R, S, U, and V were paired with AP to identify assistant principals. So principals were PB, PD, PE, PF, PG, PJ, PL, and PT. Assistant principals were APC, APH, API, APK, APM, APN, APO, APW, APR, APS, APU, and APV. In addition to using codes to identify participants, themes were established from CAS theory to identify essential information that was transcribed from each participant response and uploaded into NVivo, to begin the coding process (Houghton et al., 2013; Yates & Leggett, 2016).

Through dissertation approval, CAS theory was examined and approved to use as a lens, to examine CCS components, influence, and the role of a leader in a CCS (Coetzee et al., 2016; Hammer et al., 2012; Palombo, 2013). The first 2 interview questions investigated participants' knowledge of CCS components using CAS theory. CAS theory is defined by the following characteristics: (a) numerous and diverse agents working both proactive and reactive in their environment, (b) agents can make internal and external decisions without consulting with agents outside of their unit based on principles pre-established, and (c) the agent's objective in the system is to achieve a common goal of organization and calmness, in a chaotic environment, through their cohesive and pre-established relationships with other agents in the structure (Morrell, 2005; Smith & Bedau, 2000). Therefore, internal agents, external agents, communication behavior, mode of communication were plausible themes in analyzing school leaders' understanding of critical components of a CCS in the K-12 educational setting.

Next, themes were generated from CAS theory to understand a school leader's knowledge of CCS components, influences on safety and security in the educational setting. The themes were decision making, cohesiveness, and reporting. CAS theory suggested that while agents work dependently and independently to resolve a chaotic event, they are making decisions and communicating through human and non-human agents (Aydinoglu, 2013). For example, participant PE stated,

> If something were to take place like someone coming into the building with a weapon (active shooter), we would alert everyone. Get on the walkie-talkies to let the SRO (school resource officer) myself, or the Assistant Principal let everyone know through the PA system.

The lens of CAS theory suggested that CCS influence on safety and security includes decision-making, working jointly, and independently to communicate during a chaotic event. Therefore, using CAS theory as a lens to develop research questions and themes were merited in examining CCS and a school leaders' knowledge.

Next, CAS theory suggested that the behavior of agents in a CCS, managing a chaotic environment are: (a) self-organization, (b) adaptability, (c) dynamism/stability, and (d) co-evolve/innovative (Morrell, 2005; Smith & Bedau, 2000). An agent interacting with one another in the system is self-organizing. This interaction is visible through a form of communication, behavior, patterns, or structure that produces organization in a complex environment (Aydinoglu, 2013). In other words, agents determine a method to interact with one another in the system. For instance, in a CCS, agents are required to self-organize one another through communication manifested by verbal, non-verbal, or

electronic transmission to establish organization during a crisis (Veil & Husted, 2012). For example, participant APH stated,

> The communication includes holding up colors that mean the following: green means the student/staff member is safe; yellow means the student/staff member is not with me, but I know their location during the emergency; red means the student/staff is missing, and I do not know their location during the crisis. We also communicate through a walkie-talkie.

Therefore, using CAS theory to create research questions and identify themes in understanding the role of school leaders in a CCS is plausible. A coding process was designed, based on the lens of CAS theory to analyze the thematic responses of school leadership's knowledge of the following: (a) CCS components, (b) CCS influences on safety and security in the educational setting, and (c) a school leader's role in a CCS in the educational setting.

## Evidence of Trustworthiness

### Credibility

In this qualitative study, the coding process involves the researcher's credibility in ensuring the information obtained is truthful and verified, and report if there were in any adjustments from Chapter 3 (Korstjens & Moser, 2018). It is difficult to validate qualitative research, so the following protocols were taken during the data collection process.

- The researcher completed an application with the school district to obtain permission to interview principals and assistant principals in the K-12 setting. The application was accepted once the district received IRB approval.
- The IRB number and approval email was provided to the school district. Then the school district provided the researcher with an official letter to conduct interviews in the district.
- Principals and assistant principals were sent emails at all 3-grade levels (elementary, middle, and high school) in the school district.
- Once a principal or assistant principal who held the title for at least one year agreed to participate in the study, an interview was scheduled. The researcher remained in the field from June 2018 to August 2018 (3 months)
- Following each interview, participants were advised that an email will follow asking participants to member check the transcribed data.
- A member check email was sent with a deadline of 2 days to review transcribed data. If no email was received, the template was uploaded into SurveyMonkey. In this case, there was only one participant that required minor corrections.

**Transferability**

Transferability emphasis is on transferring the research results in other settings outside the setting discussed by providing details of the location, observed behaviors, and attitudes, atmosphere, climate (Amankwaa, 2016). The research used purposeful case sampling that is also called theoretical case sampling (Tuckett, 2004). In theoretical case

sampling, participants are selected based on the purpose of the study. In this qualitative case study, the purpose was to interview principals and assistant principals in the K-12 educational setting.

A total of 20 principals and assistant principals were interviewed in one school district. Once a principal or assistant principal responded to an email from the researcher, agreeing to participate in the study, an interview was scheduled. This process continued until 20 participants were interviewed sufficient to ensure the data were rich and saturated. Before collecting data, the researcher had to verify the participant held their position for at least 1 year, while currently in the position. Verification took place through their school website that listed their tenure. Also, during the face-to-face interview, their tenure in their role was verified, prior to collecting data. This type of purposeful sampling is called criteria sampling. It requires participants to meet certain conditions, so the data collected are rich (M. Q. Patton, 2002). Finally, the interview location and environment changed for each participant who participated in the study. Participants were interviewed in their office on campus, in the building, conference room on campus, or outside on the campus, whereas 20% of the 20 participants were interviewed via phone.

Each location allowed the researcher to have the participants' attention in completing the 7-question interview. Participants were interested in the study and were pleased to see that research was being conducted because of the recent tragedy in a Florida school involving the killing of internal stakeholders in the K-12 setting. During the interview, the researcher remained true to the protocol by explaining the purpose and

procedures that would take place during the interview (7 open-ended questions were asked, the participation in this study was voluntary, no risk to the participant, the interview was confidential, it would take at least 40 minutes, information would be typed in the researcher's computer, the participant would receive an email within 72 hours to member check the typed responses), and each participant was asked to sign and date the consent form. Once the interview began, the participants were comfortable and present. For example, participant APN was interested in why the researcher decided on this topic. The researcher explained information from Chapter 2 and that the data was necessary because it is limited. Also, the researcher explained that the research would assist school leaders in ensuring the safety and security of internal stakeholders. Finally, the researcher attended each face-to-face interview professionally dressed, despite the time and location. For example, one interview took place on a Saturday morning following an event at the school. The researcher was professionally dressed and prepared to interview the participant in his or her school office.

Therefore, through a description of the setting, location, and observation of the participant's attitude the research can be duplicated in another setting. Additionally, the tool was used to collect data previously in another state and it was validated through several government documents, including the U. S. Department of Education, The Incident Command System (ICS), U. S. Secret Service, and several scholarly practitioners (McCarty, 2012). Yet, changes were applied to the instrument and authorized by the creator, so it addresses the research questions (see Appendix B).

**Dependability**

In the future, researchers will be able to use and repeat the same procedures (Amankwaa, 2016). In this qualitative case study, the task of repeating is simple to accomplish. For example, the tool used to collect data in this study was taken from a dissertation that used qualitative methods. The study inquired on principals, assistant principals, and superintendents' knowledge of crisis management in the K-12 educational setting.

Likewise, this qualitative case study focused on principals' and assistant principals' knowledge of CCS in the K-12 educational setting in one school district. In the future, a researcher can use these procedures and tools to focus on one level instead of all levels as well as look at demographics in one district or state. For example, in this study, participant PB stated, "Each school and location have different needs (geographic/demographics/needs)" and participant APS stated, "At the elementary school level it is always difficult to discuss and share information." In other words, this case study obtained data on principals' and assistant principals' knowledge of CCS in the K-12 setting in one school district. Another qualitative case study using these methods should collect the same data.

**Confirmability**

Confirmability is when neutrality is implemented through set audits in the study and the participants and not the researcher shaping the collected (Yilmaz, 2013). Also, confirmability is data that was collected and not just information ascertained by the researcher (Korstjens & Moser, 2018). In other words, the researcher did not influence

the data and findings. For this reason, the data and findings were shaped by data collected, observation of participants, and the data were member checked. Therefore, the responses included feedback from principals and assistant principals, the researcher used research protocols, and the study included auditing procedures to ensure that bias by the researcher was not an issue.

# Chapter 4: Study Results

In this qualitative case study, I examined participants' knowledge of CCS in the K-12 setting by asking participants to answer seven interview questions based on three central questions:

Q1: What are the components of CCS that are used to respond to and manage a crisis in the NWE Public School District, in LMN County?

Q2: How do CCS components influence safety, and security in NWE Public School District, in LMN County?

Q3: How does the role of a school principal influence crisis response and management through a CCS, for the NWE Public School District, in LMN County?

Central Question 1 focused on the different components in a CCS with two interview questions. One question focused on understanding the critical components, and the other question inquired on which component works independently. The second central question inquired about the influence of CCS in safety and security by asking three interview questions. The first interview question inquired about what ways a CCS is implemented during a crisis response in the K-12 setting; the second interview question inquired about the communication between internal and external agents, and the next interview questions inquired about the communication between external agents with external agents. The final central question asked two interview questions that inquired about the role of a school leader in a CCS and how they assume their role in a CCS.

**Research Question 1: CCS Components**

Question 1 included two interview questions to identify and analyze critical components in a CCS:

- Q1:1—Interview question one asked: What are the critical components in a CCS designed to protect stakeholders?
- Q1:2—Interview question two asked: What, if any, are the independent elements of a crisis communications plan that are school based?

In identifying these components, (a) internal agents, (b) external agents, (c) communication behavior, and (d) modes of communication were the themes created. In response to Q1:1, respondents identified communication behavior as the critical component in a CCS, and external agents the least critical component. In Q1:2, respondents identified the mode of communication (human and nonhuman agents) as one of the independent elements in a CCS and external agents was reported at 0%. Figures 2 and 3 provide a compact and an organized display of the data. In the figures, *N* represents the number of participants, and the percentage is based on the number of responses for each interview question. Of the 20 participants, there were 44 thematic responses for Q1:1 and the independent component thematic distribution was based on 20 participants' responses.

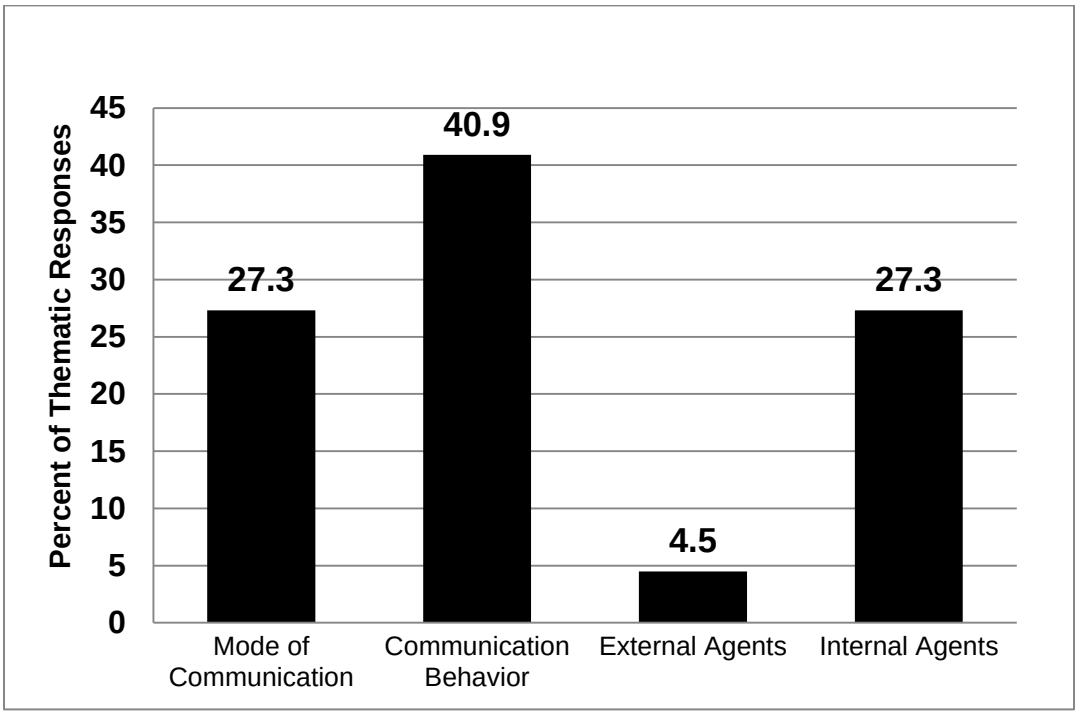


*Figure 5*. Q1:1—Critical components of CCS themes. The figure illustrates participants' perception of which component is critical in a CCS based on 20 participants.

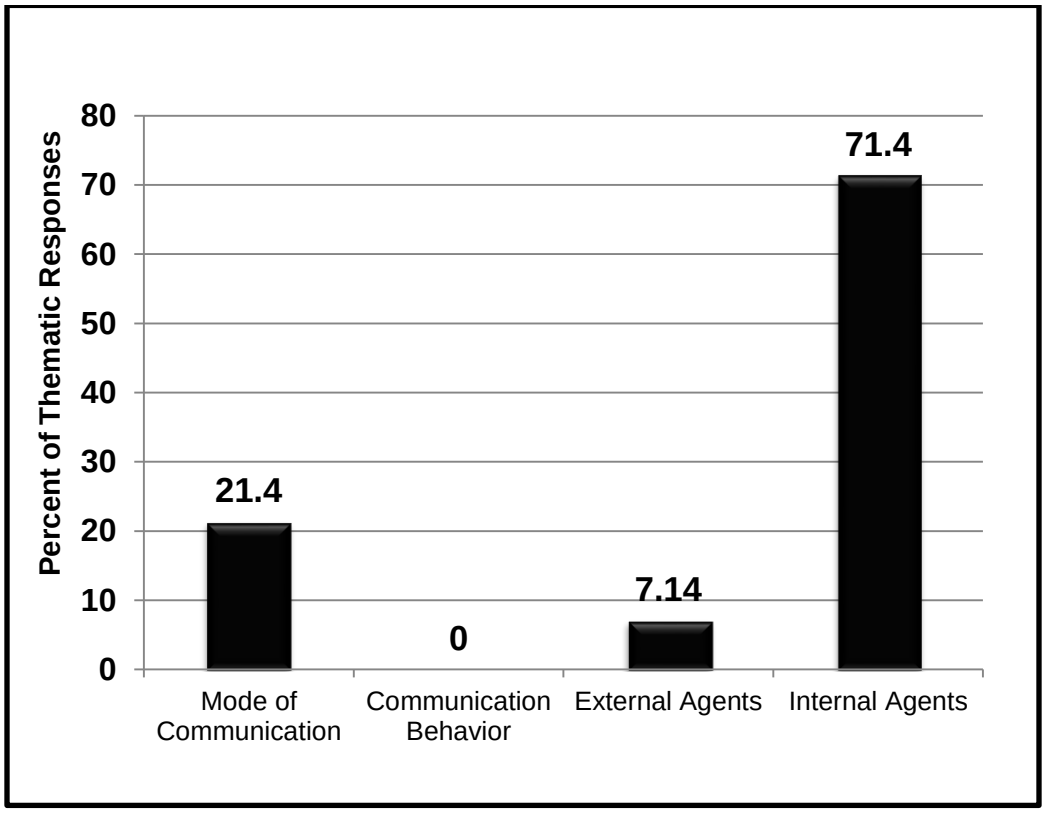


*Figure 6*. Q2:1—Independent components of CCS themes. The figure illustrates which component is independent in a CCS, based on 20 participants.

In the analysis of critical components of a CCS through the lens of CAS theory, 40.9% of participants expressed that communication behavior is critical. In Chapters 1 and 2, CCS requires agents' communication behavior to be stable, clear, honest, open, sensitive, and a flexible process that allows the crisis to be resolved promptly, with limited to no harm to members or property (Kapucu & Khosa, 2013; Liou, 2014; Veil & Husted, 2012).

Participants reported that communication behavior in a CCS that is used in the K-12 setting include the following:

- Communication must be crystal clear that there is no miscommunication in a CCS.
- A clear understanding of the threat is necessary in a CCS.
- It is necessary for staff members to have a clear understanding of all moving pieces during a crisis.
- In a crisis, all stakeholders have a piece in acknowledging their role and understanding.
- In a CCS, it is necessary for staff to be very open about what will take place during an emergency.
- In a CCS, having available communication is necessary prior to and during a crisis in the educational setting.
- It is necessary for the communication to provide a clearly defined movement and actions in a CCS.
- The most critical components in a CCS are to have a clear understanding of the threat, meet with staff to understand the threat, and communicate responsibilities to each person.

Therefore, 40.9% stated that communication behavior in a CCS requires clear, open, concise, available, and understandable communication, as well as, 27.3% of participants reported that internal agents and the mode of communication were both critical component in a CCS, but communication behavior (40.9%) was the most critical. Internal agents included campus administration, personnel, and teachers that communicate information through human and non-human agents. The nonhuman agents were

technology base programs and mobile devices. In a CCS, the human and non-human agents work jointly and independently to communicate and ensure the safety of in the environment (Veil & Husted, 2012). The human agents are members in the school system who communicates with individuals who work with agencies outside the school system (Flaherty, 2012; Veil & Husted, 2012). Nonhuman agents are tools, behavior, resources, and electronic devices that are used to communicate information between internal and external agents (Flaherty, 2012; Veil & Husted, 2012). Therefore, 27.3% of the participants reported the following:

- It is necessary to have a coherent crisis team in a CCS. Identifying people on the team that are easily accessible and not tied to students at all times.
- The participants reported that the team includes teachers, counselors, support staff, resource officer, and a school nurse.
- It is ncessary to communicate quickly via phone, email, etc.
- Text or email alerts will go to the school police officer or administrator.
- Communication will include posting on social media applications informing the public of the crisis.
- The crisis communication team shares information with the district promptly.
- It is necessary for teachers and students to know why different protocols are taking place during a crisis.
- In a CCS, communication takes place through a PA system.

Although communication behavior (40.9%) was deemed the most critical component based on participants' responses, internal agents and the mode of

communication were equally critical at 27.3%. Reported by participants, internal agents use human and non-human agents to communication in crisis communication. For instance, APU reported that "crisis communication is now based on PA systems or entries. Also, everyone on staff has the ability, to communicate quickly via phone email, etc." PG stated, "we communicate what we will do through a PA system. We then rely on text messages to share information." Although having different internal agents and modes of communication to transmit information during a crisis in a CCS is critical, participants reported that non-human agents are critical components as well. Subsequently, participants reported using color coding objects that provide internal stakeholders with information regarding the safety of students in the building. A red card communicates there is an issue, a yellow card communicates there may be an issue, and a green card communicates all is well. Participant PT stated, "staff will communicate that all children and staff are accounted. (Colored coded cards to wave and to signal. A Yellow – May need assistance. Green – all accounted for and safe. Red – Means unaccounted for or not safe.)" In addition to having different types of non-human modes of communication in a CCS, the participants stated the need to have a crisis communication team on campus. According to the responses, the responses reported that it is necessary to have a crisis team that includes someone in the building from the administration team, personnel, teachers, and the school resource officer. API stated

> It is important to have a crisis team. They know where they are supposed to be, and what they are supposed to do during a crisis. The team is composed of other administrators, counselors, front office staff, nurse (clinic assistant), and the SRO.

It was reported that it is necessary to include someone who does not manage students throughout the day. Participant APC stated, “having a coherent crisis team. Identifying people on the team that are easily accessible, not tied to students at all times.” In other words, participants identified internal agents as individuals who work with students and individuals who do not work with students throughout the day. These individuals include teachers, nurses, school resource officer, administrators, clerical staff, the principal or assistant principal.

In addition to the critical components in a CCS, participants shared which component they believe operates independently in the system. The responses indicated that 71.4% reported that the mode of communication was an independent component. According to participants’ responses, the independent component were a computer-based program and electronic devices used in the district. APS stated, “we have RAPTOR software that works independently (Raptor Technology) from my plan.” APU stated, “The PA system and an emergency system in the classroom (button pushed in the classroom by the student or teacher).” Another method participants referred to was sending a message via phone. The message is delivered through a phone call or text message. APO stated, “If you have a plan in place that is a signal, sent via phone through a system called Remind 101.” PB discussed using “school messenger as text via phone” to notify stakeholders of a crisis. Participants discussed electronic devices and computer programs as an independent element in a CCS. Although participants reported that electronic communication (non-human) was an independent element in a CCS; external agents was not an independent element with a response percent of zero.

**Research Question Two: CCS Influence on Safety and Security**

Central question 2 examined CCS components influence, on safety and security in the K-12 educational setting. The central questioned used 3 interview questions:

- Q2:1—In what ways would a CCS be implemented during a school-based crisis?
- Q2:2—How can a collaborative methodology be formulated that allows for critical internal communications that also interface with external agencies?
- Q2:3—How can collaborative methodology be formulated that allows for critical external communications with external response agencies directly?

For Q2:1 there were two themes: (a) internal decision-making and (b) external decision-making. Out of 20 participants, 87.5% reported that internal decision-making, influence safety and security in a CCS during a school based crisis. In a CCS, all decisions makers (internally and externally) are required to make, promote, real, and plausible decisions in crisis (Veil & Husted, 2012). Similarly, in complex adaptive system theory (CAS), agents make decisions independently based on the established protocols (Morrell, 2005; Smith & Bedau, 2000). Therefore, internal decision-making and external decision-making were themes used with a compact and organized display in Figure 4.

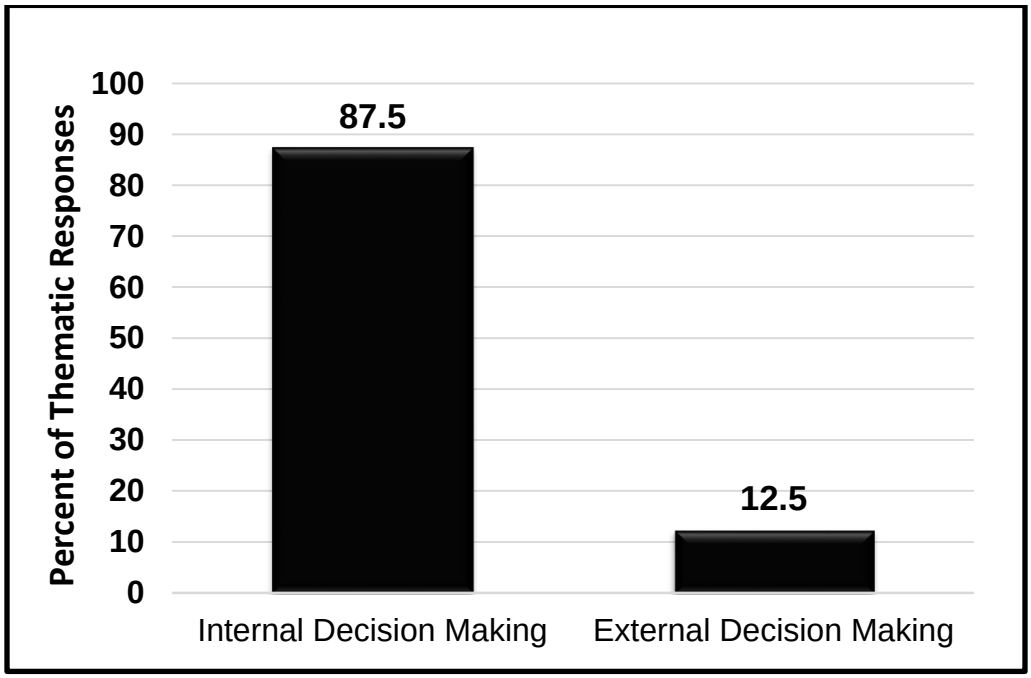


*Figure 4*. Q2:1—Decision making in CCS themes. The figure illustrates the type of decision making that influence CCS based on 20 participants.

Participants reported that 87.5% of the influence in a CCS originates from internal decision-making that includes following protocol and established policies. The protocol includes: (a) deciding when and how to notify teachers, students, and staff; (b) ensuring the school resource officer is notified; (c) contact the district; (d) communicate with first responders; and (e) parents are notified. Nevertheless, it is critical to report that not all levels (elementary, middle, high school) have an assigned resource officer. Participant PF stated,

> We must have a process that is easy to understand and flexible. Then have the front office staff provide and assist with implementing the process. Resource Officer follow-up with what occurred, if they are nearby. Next, get the parents and the area Superintendent involved in the process.

Participant APS stated, “We share a school police officer with a high school and maybe a middle. We would like to have more of a presence of a police officer.” Although having an assigned resource officer for all schools and levels is an issue, participants discussed it was necessary to follow protocol for interview question Q2:1. Participants reported:

- First, the alarm and codes in the building will be initiated.
- The administrators in the building will be notified through established non-human or human communication methods.
- The normal routine will cease, anyone outside the building would come inside the building, and the doors will lock.
- The school resource officer (SRO) and the district will be notified. If the campus needs additional personnel, the district will send them to the campus.
- The school district does not contact the community. The media person through the district, speaks with the local community.

Overall, 87.5% of the internal decision making is following protocol through the implementation of established crisis communication policies and procedures. Specifically, notifying teachers, the SRO assigned to the school, administrators, and staff in the building. In addition to notifying different internal stakeholders, participants reported that is necessary to communicate the crisis with the district, and parents. PT stated,

> My initial response is to do what has been rehearsed: implement protocols, send out a signal, members of the safety team will get in place, staff will communicate

that all children are safe and accounted, communicate with first responders, Area Executive Director, county police, and parents.

Additionally, PB stated, “the principal will let the Area Director know what is occurring, then they let the Public Safety Director know the status in the environment.” The objective is to execute the plan, follow protocol, notify district authorities, local responders, and parents.

In addition to discussing methods a CCS is implemented during a school-based crisis, the study examined communication in a CCS. The communication contact between internal agents and contact between external agents. The themes used to analyze responses were cohesiveness and reporting for Q2:2 and Q2:3. Cohesiveness in a CCS requires internal and external agents to work jointly through communication that manages the crisis in both a timely and effective manner (Veil & Husted, 2012). Reporting in a crisis communications system require agents (internally and externally) to communicate and report suspicious behavior (internally and externally) to prevent an imminent threat (Veil & Husted, 2012). Likewise, CAS theory suggested that the agent’s goal in a chaotic environment is to achieve a common goal of organization and calmness; through cohesive and pre-established relationships with agents in the system (Morrell, 2005; Smith & Bedau, 2000). Figures 5 and 6 display a compact and organized explanation of the themes (cohesiveness and reporting) participants deemed critical for internal and external agents to communicate.

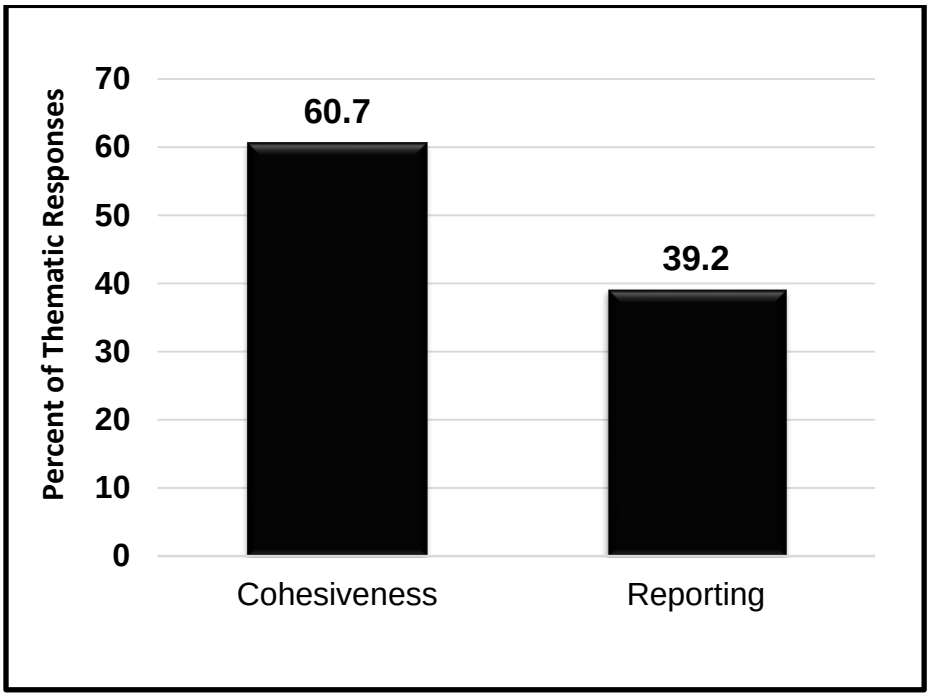


*Figure 5.* Q2:2—CCS influence between internal and external agents. The figure illustrates the type of influence necessary between internal and external agents, in a CCS, based on 20 participants.

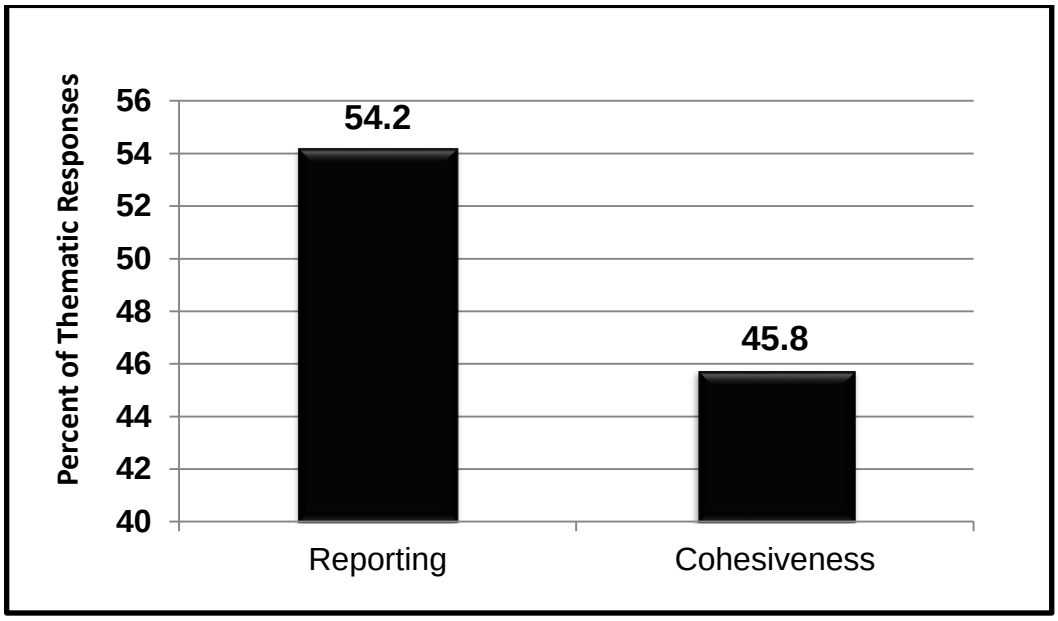


*Figure 6*. Q2:3—CCS influence on external agents. The figure is an illustration of the type of influence critical between external agents during a crisis in the K-12 setting, based on 20 participants.

In central question 2, interview question 2, the data reported that cohesiveness is a critical methodology for internal agents (60.7%) to formulate communication in a CCS with external agents. In interview question 3, reporting (54.2%) between external agents is a critical methodology for them to formulate communication in a CCS. Participants highlighted the importance of types of influences that impact safety and security in Figures 5 and 6. Specifically, participants reported that cohesiveness between internal and external agents is necessary for a CCS to be effective in an educational environment. In other words, the relationship requires the agents to be organized, connected, and solid in using a CCS when they prepare and respond to a crisis in the educational setting. APN stated, “We collaborate. We have some outside meeting with outside agencies to review our plan. Developing a relationship with outside agencies, and getting them familiar with

your building." APR stated, "We need to meet more with our external response agencies (fire, police, medical). We need a day to meet up because they do know us. This would help to get to know first responders and your external agencies."

Additionally, PB raised another point with regards to school demographics and needs. PB stated, "each school and location has different needs such as geographic, demographics, and socioeconomics. Ideally having a school with the same demographic come together to come up with a safety plan." In other words, having schools with the same needs and demographics come together and formulate a plan through a CCS is necessary. Although working jointly to formulate critical communication between internal and external agents is necessary, obtaining district support and participation from internal agents are vital. PJ stated, "our district staff supports us in building relationships with those municipalities as far as a crisis. It also starts with me, as a building leader." Although coming together to create and establish a plan is essential, the school leader reported that collaboration and communication begin with the school leader.

Communication between internal and external agents require cohesiveness, participants said that reporting (54.2%) is necessary for collaboration between external agents in CCS. APM stated, "We would need to go through our on-campus resource officer to funnel all information through them to the external agencies, first responders, and police officers outside." Also, APU stated, "the response agencies communicate directly with one another if there is an issue at our school. They would bring additional help." In making sure the information is correct, APW stated, "we make sure that the proper departments within the organization have pertinent information; so when they

communicate it out, it is communicated effectively and accurately." The objective is that information is reported appropriately and correct when given. In addition to reporting, PE stated, "the response time of the police should be timely and communication with parents." Therefore, as communication is transmitted between external agents, it is necessary for the communication in a CCS to be correct, appropriate, and timely with stakeholders.

**Research Question Three: School Leaders Role in CCS**

Finally, central question 3 examined the role of a school leader in a CCS through the following themes: self-organizing, adaptability, stability, education, equipping personnel, proactive, and reactive behaviors. The themes were developed through CAS theory in understanding agents' function in a CCS. CAS theory described the behavior of agents in a chaotic environment as (a) self-organization, (b) adaptability, (c) dynamism/stability, and (d) co-evolve (Morrell, 2005; Smith & Bedau, 2000). In other words, CAS theory agents execute functions based on being resilient (self-organized); adapting to the environment with pre-established protocols may not be usable (adaptability); so, flexibility to change to stabilize the environment (stability) and use an innovative method to communicate and ensure the safety of stakeholders (co-evolve/innovative) is necessary. Likewise, CCS suggested that self-organizing in an educational setting are stakeholders executing pre-establish rules to organize and respond to a crisis; principals managing prompt and timely communication (adaptability); using set guidelines and procedures to remain stable (stability); school principals demonstrating innovative behavior through practicing and training to understand their role; equipping a

crisis team internally to report and communicate suspicious behavior to prevent a crisis; principals are proactive in preparing and responding to a crisis; and finally, principals are responding timely and safety (reactive) to a threat (FEMA, 2013; Veil & Husted, 2012; Wolf & Rosen, 2015).

In other words, the themes chosen for Q3:1 (self-organization, adaptability, and stability) were used to define the school leader's responsibilities in a CCS. Whereas, Q3:2 themes (education, equipping personnel, proactive, and reactive) were used to gather data regarding the school leaders role, when responding to a crisis using a CCS. Both questions examined the school leaders' behavior/role (traits and responsibilities) as they respond to and manage a crisis in an educational setting. Figures 7 and 8 provide a dense and organized view of participants' response for Q3:1 and Q3:2.

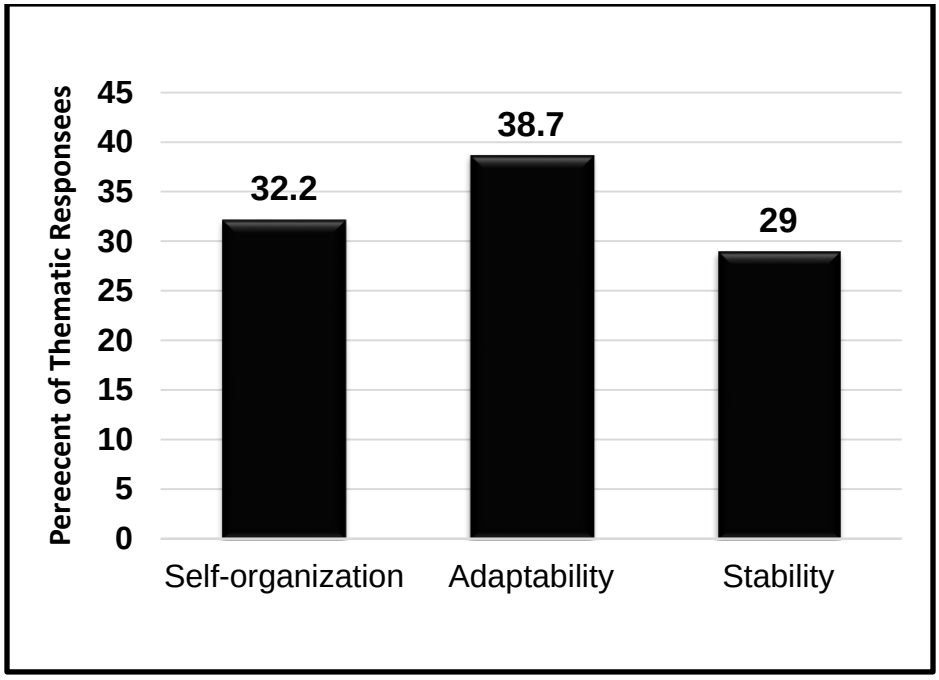


*Figure 7*. Q3:1—CCS Critical Leadership Traits. The figure illustrates the traits necessary for school leaders to be effective in a CCS based on 20 participants.

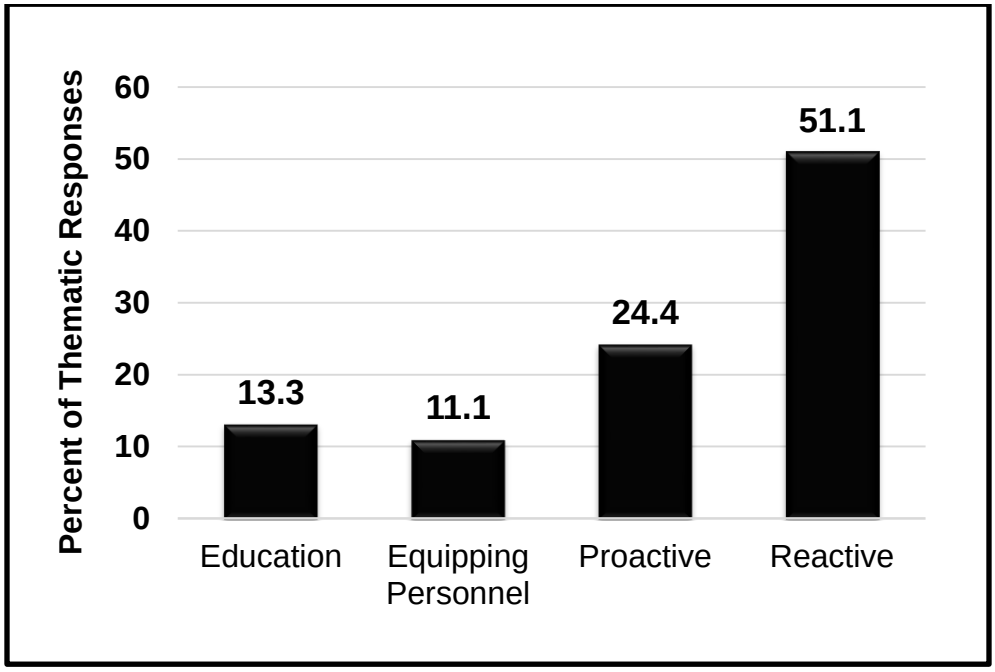


*Figure 8.* Q3:2—The primary responsibility of leaders in CCS. The figure illustrates school leaders' perceptions of what is their responsibility in a CCS based on 20 participants.

In Q3:1, participants reported that adaptability (38.7%) and self-organizing (32.2%) were the most critical responsibilities of a school leader in a CCS. In the responses, participants discussed adaptability as them communicating and ensuring that communication is constant, quicky, and timely. Of the 38.7% participants reported:

- In a CCS the school leaders' role is to keep everyone calm, ensure safety, and that the communication goes out quickly.
- Adapting to the situation is necessary for school leaders.
- The leaders need to be the key communicator, prioritize the components in a CCS, and maintain calmness.

- The school leader has to follow the procedures identified in a CCS. If the school leaders do not, it creates a sense of incoherency or chaos in the response.
- The school leader must be very coherent and succinct in following the plan.
- One of the most significant components in a CCS is to ensure the processes and protocols are in place.

The responses from participants were sincere in their responsibility during and following a crisis in a CCS. Participants reported that a school leader's role is to organize, adapt to changing conditions, and maintain stability. However, the most critical theme that defined their role in a CCS was adaptability at 38.7%, and self-organizing at 32.2%. However, stability (29%) was the least responsibility for school leaders to assume in a CCS. Instead, participants reported that communication in a CCS requires school leaders to ensure everyone on staff understands communication so that responses are organized and agents adapt to the changing conditions. As participants discussed adapting and self-organizing, participant APK stated, "we have 4 CSA's (Campus Security Associates) that monitor halls, mentor kids, and they do not carry guns. They act as additional security in the building." It was interesting to discover that a CSA was a new element in a K-12 setting to assist in maintaining safety. APM stated,

> CSA is more like support personnel and mentorship in the school to keep order. They are encouraged to build a relationship with students. For example, if the staff has an issue with a student, they call the CSA to walk and talk with the

student. Once the student returns to the classroom, they are calm and ready to learn.

A CSA was an interesting component used to manage safety and security in an educational environment. The associate is used as another agent used by school leaders to communicates through a CCS.

Although a CSA was another impressive component used to protect stakeholders in an educational setting, school leaders reported methods to assume their role in a CCS. The responses reported that 51.1% of the data identified reactive as a method school leaders use to assume their role in a CCS. Proactive was reported as 24% of the 44-base responses. The majority of the data echoed that the role of a school leader is to react (51.1%) and be proactive (24.4%) in preparing for a crisis, ensure the safety of everyone in the building, follow protocol, and react. Some of the responses reported the following:

- School leaders know their roles, must respond, remain calm, confident, and do not panic.
- Training is daily, and school leaders implement what they are trained. In other words, the response to a crisis is second nature.
- The school leader assess the situation and ensure that stakeholders are not in immediate danger.
- The school leader is the first responder in the building and initiates the established protocol.
- In a CCS, the school leader provides clear directions, gather information, and react accordingly.

- The school leader assumes the role of a parent and protect stakeholders by responding automatically and follow policy.
- School leaders think on the spot and problem solve during a crisis.

In summary of the Q3:1 and Q3:2, participants see their role as adapting to the changing conditions with no time to pause. Instead, their actions must be reactive in ensuring the safety of everyone in the building. Participants reported that it is necessary for school leaders to be reactive in the time of a crisis. The situation requires them to think instantaneously and to go into the role of a first responder. Equipping personnel (11.1%) and education (13.3%) were not critical components in their role. Although equipping personnel and education were not critical, the school leaders reported that reactive (51.1%), adapting (38.7%), and self-organizing (32.2%) are behaviors necessary for schools leaders in a CCS, to ensure the safety of everyone in the building.

Throughout the discussion of a school leader's role, participants continued to report responses that placed them in a reactive role. PF stated, "you must display that you can handle the issue." The objective as PJ, APW, PL, and others stated, "just do it." Also, one message many of the participants echoed and APR summed it up was, "It is almost like being the general of the army, coach of a football team, captain of the ship." The school leader assumes their role in a crisis communication (CCS) by reacting to a crisis using protocols and policy in place, to maintain safety in the K-12 educational setting.

## Summary

Chapter 4 summarized data collected using CAS theory to examine school leader's knowledge of CCS. Multiple themes from CAS theory were used as a lens to

identify participants' knowledge of CCS components, the influence of CCS in safety and security, and the school leader's role in CCS. Through data analysis, school leaders reported that communication behavior (40.9%) was a critical component and that internal agents (71.4%) work independently from the CCS. The independent agents specifically were nonhuman methods used to communicate during a crisis. Next, the responses reported that internal decision-making in a CCS, influences safety and security. In other words, it is the communication that agents on campus formulate and implement in a CCS to respond to and manage a crisis. Also, 2 additional interview questions inquired on CCS influence between internal and external agents as well as external agents with external agents. The participants reported that cohesiveness (60.7%) was critical in a CCS when internal agents communicate with the external agents. Unlike, reporting was 54.2% for communication between external agents with external agents. Finally, adaptability (38.7%) and self-organization (32.2%) were characteristics that define the role of a school leader in a CCS. Reactive (51.1%) was the role that participants reported as a significant behavior for school leaders to employ when assuming their role in a CCS, to respond to and manage a crisis.

Therefore, the data exposed school leaders' knowledge of different components, influences, and their role in a CCS. Chapter 4 also described the research setting, demographics, data collection, analysis, evidence of trustworthiness, and the study results. Based on the collected data, Chapter 5 discusses these findings and further application of CAS theory and CCS components in safety and security for the educational environment. Also, there is a discussion on recommendations for future research and the

social change implication to develop procedures that equip schools with preparing, responding, and managing potential crises from mass shootings to natural disasters in the K-12 educational environments.

# Chapter 5: Discussion, Findings, Limitations, Recommendations, and Conclusions

My purpose in this qualitative case study was to examine school leaders' perceptions of CCS components, influence on safety and security, and the school leaders' role using complex adaptive system theory (CAS) as a lens to support more effective response and management of a crisis in the K–12 educational settings. In the research, key findings indicated that most school leaders perceived internal agents as a critical component in a CCS; and their role requires them to adapt to the changing conditions during a crisis in the K-12 educational setting. The research provided insight into school principals' and assistant principals' knowledge and understanding of CCS to respond to and manage a crisis in the K-12 educational setting.

## Interpretation of Findings

In Chapter 2, the peer-reviewed literature indicated that the application of CCS was limited and additional knowledge is necessary to enhance safety and security in the K-12 setting (Cowan & Rossen, 2013; GAO, 2016; Liou, 2014). In addition, the examination of school leaders' perceptions in the K-12 educational environments will enable school leaders to make sound decisions to prepare, respond to, and manage a crisis, as well as including CCS procedures in a comprehensive K-12 school safety plan. Therefore, I used three central questions to understand school leaders' knowledge of CCS using CAS theory as a lens to create questions that obtained feedback from school leaders. Furthermore, the questions addressed the gap in literature regarding CCS procedures in a comprehensive K-12 school safety plan to increase the body of knowledge from the view of the school principal and assistant principal.

Q1: What components of a CCS are used to respond to and manage a crisis in the NWE Public School District, in LMN County?

Q2: How do CCS components influence safety and security in NWE Public School District, in LMN County?

Q3: How does the role of a school principal influence a CCS response and management in the NWE Public School District, in LMN County?

**Central Question 1 (CCS Components)**

The first central question examined school principals and assistant principals' perception of critical components in a CCS through the lens of CAS theory. In Chapter 2, the peer-reviewed literature revealed several CCS components, CCS influences, and the role of school leaders. Through these findings in the literature, themes emerged that I used in Chapter 4 to explain school leaders' perceptions. The themes for CCS components include internal agents, external agents, communication behavior, and mode of communication that work together to ensure the safety others (Flaherty, 2012; Veil & Husted, 2012). Also, in Chapter 2, I characterized CAS theory as multiple diverse agents, working proactively and reactively together, toward a common goal (Carter & Sood, 2014; Pohl, 1999). In a CCS, the common goal is to maintain safety and resilience in the educational environment (Veil & Husted, 2012). In the findings, 40.9% of principals and assistant principals reported that communication behavior was the most critical component and 4.5% of the participants reported that external agents were the least critical component in a CCS. Specifically, participants described communication behavior as methods and behaviors used to communicate in a CCS during a crisis in a K-

12 educational setting. These methods include humans, non-human tools, and behaviors such as school personnel, walkie-talkies, computer programs, and signs that are clear, available, open, and flexible. For example, APW reported, ". . . being very open about what will take place during an emergency" and PG reported, "We pull the admin team and resource officers to get a clear understanding of the issue." In addition, participants reported using a flash drive as a tool that possesses students' information in the time of an emergency. PD stated, "I carry a flash drive with all of our students' information, in case of a crisis."

In addition, the findings indicated that 71% of the participants reported that the mode of communication is an independent element in a CCS. In Chapter 2, the peer-review literature was limited regarding elements that work independently in a crisis communication plan. In the findings, participants indicated that nonhuman elements were independent elements that work independently in a CCS. Specifically, technology such as a computer program that alerts the county and parents of suspicious behavior was reported to be an independent agent in a crisis communication plan. Although 71% of the participants reported technology as the independent agent, human agents were used to manage the technology in a CCS to respond to and manage a crisis in the educational setting.

**Central Question 2 (CCS Influence on Safety and Security)**

In addition to critical components in a CCS, understanding CCS influence to respond to and manage a crisis in an educational setting was examined. Chapter 2 reported that CCS requires agents to formulate real and plausible decisions in a timely

and effective manner (Veil & Husted, 2012). Additionally, agents are required to report suspicious behavior to prevent imminent threat (Veil & Husted, 2012). In the findings, 87.5% of the participants reported that internal decision-making used by human agents in a CCS influences safety and security in an educational environment.

The theoretical lens in Chapter 2 reported that agents exchange information to be proactive and reactive, and they work to achieve a common goal of organization and calmness, in a chaotic environment, through their cohesive and pre-established relationships with other agents in the system (Morrell, 2005; Smith & Bedau, 2000). As a result, the findings revealed that cohesiveness among internal and external agents are critical in CCS, to respond to and manage a crisis in the educational setting. Specifically, in central question 2, interview question 2 and 3, the majority of participants reported that cohesiveness between internal agents and reporting between external agents was critical for a CCS to be effective. Therefore, having internal and external agents work jointly and cultivate relationships could allow agents in a chaotic environment to be creative in achieving resilience and organization prior, during, and following a crisis in the K-12 educational setting.

**Central Question 3 (Role in CCS)**

Finally, the study examined the role of the school leaders in the K-12 educational setting. In Chapter 2, the CAS theory described 4 main roles of an agent that responds to and manages an environment that is chaotic. The behaviors are (a) self-organization, (b) adaptability, (c) dynamism/stability, and (d) co-evolve/innovative (Morrell, 2005; Smith & Bedau, 2000). These behaviors were critical in understanding the school leaders' role

during a crisis. The findings indicated that in a CCS the school leader should use the system to be able to adapt to the changing conditions and self-organize during the crisis. Specifically, 38.7% of the participants reported that their role in a CCS consists of them adapting to the situation to protect students and staff. APN stated, “It is adapting to the situation.” Although the theory (CAS) reported stability as a role of an agent, 29% of the participants perceived it to be a role. Instead, adaptability (38.7%) and self-organizing (32.2) were critical behaviors participants perceived to be effective in a CCS.

Although the study explained the school leaders’ behavior in a CCS, Chapter 2 discussed the responsibilities of a school leader in a CCS. According to data in Chapter 2, the responsibilities of a school leader include being proactive, reactive, educating personnel, and equipping personnel to respond to and manage a crisis (FEMA, 2013; Veil & Husted, 2012; Wolf & Rosen, 2015). In the findings, the majority of participants reported that being reactive was the primary duty of a school leader to respond to and manage a crisis. The participants reported that their duty was to ensure that the safety of the students and staff was first. APN reported, “I assume the role of a parent and protect. I automatically respond by the following policy.” The participants were focused on protecting students and following protocols in place. The response according to participants is to understand procedures, implement processes, and protect. In doing so, the participants discussed reacting calmly with confidence and understanding. Most importantly, it is their duty not to panic, but remain calm, coordinate with stakeholders, and be the one who remains behind. APO reported, “I coordinate with different people

and talk through scenarios. I do not panic easily. If it is my time, it is my time, I stay behind."

## Limitations of the Study

Limitations are challenges that may influence the research and may be impossible for the researcher to control (Hancock & Algozzine, 2011; M. Q. Patton, 2002). Conducting a qualitative case study requires the researcher to gain an upfront investigation of the issue (Maxwell, 2013). Therefore, to gain an upfront investigation, the researcher requested interview time from principals and assistant principals in the district. From the initial stage, the study was presented with some limitations, specifically, obtaining participation from participants who were willing to honestly answer 7 questions regarding their perception of the school district's CCS, collecting data from participants that experienced a crisis to apply CCS protocol, and limited literature discussed in Chapter 2.

Specific protocols were taken prior, during, and following data collection. The protocols included using a purposeful sampling procedure that selected participants who were in the field for at least one academic year. In doing so, 50% of the participants were in their role for at least 5 years or more; and less than 40% were in their role for 1 to 2 years. As a result, the researcher interviewed participants who experience a crisis and used CCS protocols to respond to and manage a crisis in the educational setting. Also, the description of their experience exemplified their honest response and experience using CCS procedures. Although the literature was limited regarding CCS in the K-12 setting in

Chapter 2, the data collected from this qualitative study provide an in-depth study of the phenomena for future research.

## Recommendations

The primary findings of this study are that school leader's role in a CCS the application of the system in a school safety plan in a K-12 educational setting is critical. Further case studies that focus on the school teachers and the staff role in a CCS are warranted. The study provides the body of knowledge with data to help K-12 school districts enhance school safety and security. The objective is to prevent loss of lives, stop disruption of learning, and enhance timely response and crisis management in the K-12 setting, as well as helping school leaders understand the importance of clear, open, flexible, and timely communication prior, during, and following a crisis.

In the study, participants indicated that the presence of school police officers is necessary. The findings indicated that police officers should be a welcomed component in the building for all schools. APN reported, "We need to protect the kids and to have the proper security. Elementary schools do not have resource officers and need them. Funds are needed to employ more resources."

Additionally, the district introduced campus security associate (CSA) as a tool to manage safety, security, and students. The CSA works like a School Resource Officer, but he or she does not carry a gun. Instead, the CSA is used as a support agent for teachers, staff, and school resource officers with getting to know the student and to defuse any disruptive behavior before it escalates. According to AMP, the CSA aids the school in "providing wraparound support for our kids, so it does not have to end up in

ISS or OSS (in school suspension or out of school suspension).” Therefore, additional research should be conducted to examine the use of CSA in schools as an agent in managing and supporting students, while managing safety and security in the K-12 setting. Additionally, there is a recommendation to conduct a study that interviews teachers and parents regarding the presence of a CSA versus a school resource officer in the educational setting.

Next, there is a recommendation to conduct a quantitative study that surveys school teachers in one school system regarding their perceptions of the CCS. In addition to conducting a study surveying teachers, there should be a quantitative study that surveys a large population of principals in two school districts. Conducting a study that examines a larger pool of participants in a quantitative study will yield additional development of the school principals, assistant principals, school teachers, school resource officers, and CSA in a CCS (Rutberg & Bouikidis, 2018). Additionally, a quantitative study will provide the body of knowledge with data that reports the relationship between CCS agents and school personnel in the educational setting (Rutberg, & Bouikidis, 2018).

Another recommendation is to conduct a study examining the leadership traits in a CCS to respond to and manage a crisis in the educational setting to determine if there is a correlation between a school leadership role and a leadership role in a CCS. If the researcher conducting the study has access to leaders in the school system making safety and security decisions would address the lack of literature regarding school leaders and crisis management.

Additionally, an area of research is to explore parents' involvement in a CCS and their involvement influence of safety and security during a crisis in the educational setting. The results of the research could lead to improved methods of managing parents and their communication during a crisis in the K-12 educational setting. The objective is to add literature regarding crisis communication and management in the K-12 educational environments.

Finally, an area of research is to examine the correlation between human and non-human agents in a CCS. Review the importance of decision making that involves human and non-human agents and their role during a crisis to be effective and protect individuals and property in the educational setting. The research can be accomplished by conducting a survey, soliciting agents in the school system who work with CCS and experience a crisis in the educational setting.

## Implications of Social Change

The findings of this study examined the perceptions of school principals and assistant principals' knowledge of CCS to respond to and manage a crisis in the educational setting. The significant impact of responding to and managing a crisis is a positive social change that would influence safety and security policies in the educational setting. If a crisis were to occur in the educational setting, the main concern is having communication that is clear, open, flexible, and constant to ensure lives are protected and safe (Kapucu & Khosa, 2013; Liou, 2014; Veil & Husted, 2012). Therefore, providing data of school leaders' knowledge of CCS may provide the educational setting with data that provides policymakers with information to advance the practice and policy of

security and safety in the K-12 educational setting. Most importantly, the findings have provided a starting point for best practices needed to include school principals and assistant principals in the planning processes of safety and security. Specifically, the importance of CCS is considered an integral segment in school safety and security plan.

To enhance safety and security in the K-12 educational setting through CCS, school leaders should ensure communication is flexible, secure, and constant, and that information is transmitted through human and nonhuman agents (Kapucu & Khosa, 2013; Liou, 2014). The implication for positive social change is based on CCS findings in the study that can offer new insight for school districts to consider communication methods to help them overcome challenges in safety and security communication during a crisis in the educational setting. As crises intensify in the K-12 educational setting, the study could cause the Department of Education and school districts to rethink leadership responsibilities as they respond to and manage a crisis. Perhaps incorporating CCS methods in school leaders training could improve safety and security response and management in the K-12 educational setting.

Furthermore, the knowledge of CCS and understanding the practical application of a CCS will add to the body of knowledge to improve school districts decision-making processes for safety and security in the educational setting. Also, improved decision-making could lead to lives saved and strategic communication practices between parents and schools. Most importantly, the Department of Education (DOE) and the Federal Emergency Management Agency (FEMA) will gain additional data to develop

procedures that could equip schools with preparing, responding, and managing potential crises from mass shootings to natural disasters in the educational setting.

## Conclusions

In this qualitative case study, school leaders' perceptions of the CCS were examined to effectively respond to and manage a crisis in the K-12 setting. School leaders included principals and assistant principals throughout one school district through a 7-question interview. Data from this qualitative study provided insight into human and non-human crisis communication that could be used to enhance safety and security. Additionally, recommendations discussed in this case study could have the potential to improve communication prior, during, and following a crisis in the K-12 educational setting.

Participants in the study expressed their perception of CCS components (CCS), their role in CCS, and CCS influence on safety and security in the K-12 setting. In their discussion, the participants (principals and assistant principals) expressed the need for open, clear, flexible, available, and constant communication that is human and nonhuman agents. In recent years, crises in the K though 12 educational setting have changed from casual fights among students to massive shootings and natural disasters that caused the lives of students and staff (Liou, 2014). Therefore, studies suggested that an examination of crisis communication is necessary to aid principals in responding to and managing a crisis in the K-12 setting (Cowan & Rossen, 2013). Although participants expressed their perceptions regarding CCS, the importance of CCS application in responding to and

managing a crisis has demonstrated to be critical prior, during, and following a crisis in the K-12 educational setting.

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# Appendix A: Interview Questions

**Q1: What are the components of CCS that are used to respond to and manage a crisis in the NWE Public School District, in LMN County?**

1. What are the critical components in a CCS designed to protect stakeholders?
2. What, if any, are the independent elements of a crisis communications plan that are school based?

**Q2: How do CCS components influence safety and security in NWE Public School District, in LMN County?**

1. In what ways would a CCS be implemented during a school-based crisis response?
2. How can a collaborative methodology be formulated that allows for critical internal communications that also interface with external response agencies?
3. How can collaborative methodology be formulated that allows for critical external communications with external response agencies directly?

**Q3: How does the role of a school principal influence crisis response and management through in a CCS, for the NWE Public School District, in LMN County?**

1. How to define the responsibilities of a school leader in a CCS?
2. How does a school leader assume their role in a CCS?

# Appendix B: Invitation to Participate

Hello,

My name is Tomicka Williams, and I am a doctoral student at Walden University. I was approved by your organization to research crisis communication systems and the school leader's role. The study is independent and not affiliated with the school district. Data collected will be used to conduct scholarly research. I am seeking school principals and assistant principals who have been in their role, at least one school year. If you meet this description, I invite you to contact me about participating in this study.

In the last year, crises that impacted the K-12 school system have changed to include mass shootings, natural disasters, and health crises. Therefore, I am interested in examining the school leader's perceptions and their role in a crisis communication system. The systems consist of different internal and external agents (human and nonhuman) working together, prior, during and following a crisis. If you are interested in learning more about the study and participating, please contact, Tomicka Williams at tomicka.williams@waldenu.edu.

Respectfully,

Tomicka Williams

Appendix C: Consent Form

You are invited to take part in a research study deigned to examine crisis communication systems knowledge and school leaders understanding. The researcher is inviting you because you are school leader that work with crisis communication systems in the educational setting. For the purpose of this study are different components that work jointly and independently to communicate and ensure the safety of the environment. These components are a combination of people (internally and externally) and communication equipment that provides information to members in the organization and the public to respond during a crisis (Veil & Husted, 2012). This form is part of a process called "informed content" to allow you to understand this study before deciding whether to take part.

This study is being conducted by Tomicka Williams, a Doctoral Student at Walden University majoring in Public Policy and Administration with a Concentration in Homeland Security and Coordination. The study is independent and not affiliated with the school district. The study will be used to conduct scholarly research.

**Background Information:**
The purpose of this study is to examine crisis communication systems, utilized by school leaders. Also, ignite awareness of crisis communication, to prevent impending crises and vulnerabilities in the educational setting.

**Procedures:**
If you agree to be in this study, you will be asked to:

- To answer several questions that cover crisis communication systems components, leadership influence on crisis communication systems, and crisis communication systems training questions.
- The entire process should take at least 30 to 45 minutes, and the information will be typed on a computer using securing Wi-Fi. Once the interview has ended the information will be transferred and saved on a portable hard drive that will be locked in a secure safe.

Here are some sample questions:

> What are the critical elements to a crisis communication system designed to protect stakeholders?
>
> What are the best practices for effective crisis communications with school-based leadership that promote collaboration?
>
> What, if any, are the independent elements of a crisis communications plan that are school based?

**Follow-Up:**
Within 72 hours following the interview, you will be provided a copy of the responses through email. The email will provide a summary of the data that will take 30 minutes to review. Also, the email will include a request for additional information, if needed.

**Voluntary Nature of the Study:**
This study is voluntary. You are free to accept or turn down the invitation. No one at Walden University or the school district will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time.

**Risks and Benefits of Being in the Study:**
Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as anxiety while answering the questions. Being in this study would not pose a risk to your safety or wellbeing. Your participation will allow the researcher to address some crisis communication concerns in the educational setting and fill the gap in the literature. Also, your feedback will provide researchers, school districts, homeland security, and policymakers with information to make decisions regarding safety and security in the educational setting.

**Payment:**
There are no payment or personal incentives to participate in this study.

**Privacy:**
Reports coming out of this study will not share the identities of individual participants. Details that might identify participants, such as the location of the study, also will not be shared. Also, the researcher will not include your name in this study. Data will be kept secure by using codes to protect the identity of participants; as well as interview feedback will be kept on a portable hard drive, and locked in a secure safe. Data will be kept for at least five years, as required by the university.

**Contacts and Questions:**
You may ask any questions you have now. Alternatively, if you have questions later, you may contact the researcher via e-mail at Tomicka.Williams@waldenu.edu or by phone at 770-3775-6774. If you want to talk privately about your rights as a participant, you can call the Research Participant Advocate at my university at 612-312-1210. Walden University's approval number for this study is **…….** and it expires on **……**

The researcher will give you a copy of this form to keep.

**Obtaining Your Consent**
If you feel you understand the study well enough to make a decision about it, please complete the interview. To protect your privacy, no consent signature is requested.

Date:_____

Participant Letter_____

Research Signature_____

Appendix D: Interview Template

## Crisis Communication (CCS) and School Leader

Q1-Questions: Ask participants to explain their understanding of CCS components.

Q2-Questions: Ask participants to explain their understanding of CCS influence in safety and security in their educational environment.

Q3-Questions: Ask participants to explain their understanding of their role in a CCS.

| | |
|---|---|
| Date | |
| Time | |
| Code | |
| Principal (P) Assistant Principal (AP)? | |
| Level: Elementary, Middle, High | |
| How many years? | |
| Region:<br>North-N<br>South-S | |
| Male (M) Female (F) | |

**Q1:** What are the components of CCS that are used to respond to and manage a crisis in the NWE Public School District, in LMN County?

1. **What are the critical components in a CCS designed to protect stakeholders?**
2. **What, if any, are the independent elements of a crisis communications plan that are school based?**

**Q2:** How do CCS components influence safety and security in NWE Public School District, in LMN County?

1. **In what ways would a CCS be implemented during a school-based crisis response?**

2. **How can a collaborative methodology be formulated that allows for critical internal communications that also interface with external response agencies?**

3. **How can collaborative methodology be formulated that allows for critical external communications with external response agencies directly?**

**Q3:** How does the role of a school principal influence crisis response and management through in a CCS, for the NWE Public School District, in LMN County?

1. **How to define the responsibilities of a school leader in a CCS?**

2. **How does a school leader assume their role in a CCS?**